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FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

Vol. 88, No. 6 JUNE, 1935 Member A.B.C.—A.B.P.

Twenty-two Cottages Were Destroyed in Meadowmere Park Summer Colony, Near New York City. Aid Was Rushed from Nearby Communities and New York City, Which, Together with a Shift in the Wind, Was Credited with Saving the Balance of the Four Hundred Dwellings

Such Popularity IS Deserved

1. Barton Fire Pumps are front mounted on standard commercial trucks (practically any make) without altering chassis or motor construction. They meet Underwriters' tests and all requirements of State Inspection Bureaus with a MUCH SMALLER INVESTMENT.

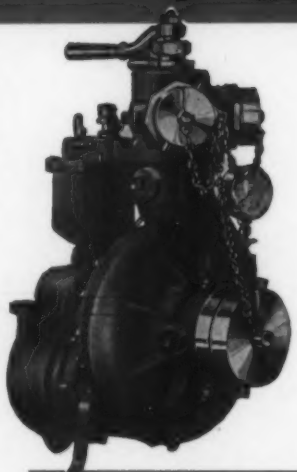
2. They will fight building or running grass fires with truck standing or moving, delivering CLEAN OR DIRTY WATER from booster tank, hydrant, cistern, pond, stream, etc.

3. Front mounting permits maximum size of booster tank without risk of overloading or springing chassis frame.

4. Use of Barton patented power take-off provides floating, flexible and trouble-free drive between pump and motor. No load on motor crankshaft.

5. Primed by BARTON AUTOMATIC PRIMER using vacuum of motor—dependable and fool-proof. A patented feature not offered on any other pump.

6. Rated entirely on performance from suction, at suction lift and at operating speeds acceptable to National Board of Fire Underwriters.



NATION-WIDE PREFERENCE . . .

Today more Barton Pumps are sold than those of any other make.

Write for Bulletin 75 which gives Full Details

7. Only type of fire pump in which hydrant energy is converted into extra pumping power, resulting in great increases in capacities and pressures when pumping from hydrant as against normal ratings from suction.

8. NO BEARINGS IN PUMP PROPER. Instead, all moving parts are carried on five heavy-duty ball bearings sealed in the water-cooled transmission case, and operating in an oil bath. Abrasive matter cannot possibly reach these bearings.

9. Geared drive operates pump at approximately twice motor speed. Even when working at 250 pounds pressure, A BARTON DOES NOT RACE THE MOTOR. Your motor stays in top form years longer.

10. Produced in sizes up to 500 gallons for city, town and rural requirements. Built and fully guaranteed by MILLION DOLLAR PUMP MANUFACTURER having every facility for producing the best—in business since 1873.

11. Barton Fire Pumps are on active duty from coast to coast—doing a job—piling up service records—a credit to the chiefs who selected them.

BARTON

AMERICAN STEAM PUMP COMPANY, BATTLE CREEK, MICH.

CENTRIFUGAL FIRE PUMPS

"THIS WAS CONSIDERED EFFICIENT IN 1900"

but: TO FILL 1935 SPEED NEEDS

faster and more efficient operating speed is required than was found in the horse car era of the 90's—slow, inefficient manually operated aerial ladders requiring the arm power of several men are just as much out of date today as the horse car, the horse and buggy and the hot air balloon as compared to the streamline train, air-flow automobile and high-speed airliner.

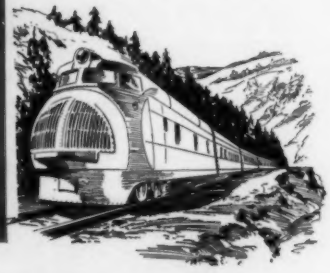
PIRSCH "ONE MAN" OPERATED AERIAL LADDER

The gasoline engine replaced the horse as means of motive power for the fire engine and later the electric starter replaced the human arm for cranking the engine; to go back to horse drawn apparatus and hand cranked engines would be considered a step backward.

THE PIRSCH HYDRO-MECHANICAL AERIAL LADDER TRUCK is the 100%-ALL POWERED job. Power replaces the human arm for all maneuvers, such as (a) raising and lowering main ladder, (b) raising and lowering fly ladder, (c) revolving operating deck. And the whole job is done by ONE MAN.

STREAMLINE TRAIN

WITH AVERAGE SPEED OF 77.6 MILES PER HOUR



PETER PIRSCH & SONS CO.

KENOSHA, WISCONSIN

A Consolidation of FIRE AND WATER ENGINEERING *and* THE FIRE ENGINEER

FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

ROBERT H. LOCKWOOD, Associate Editor — FRED SHEPPERD, Editor — N. N. WOLPERT, Assistant Editor

All's Hunky-Dory!

NOW that fire departments everywhere are beginning to replenish needs that have accumulated during the past few years of hand-to-mouth buying, nearly all of the live fire equipment manufacturers and dealers are seeing daylight once again.

● Said Dick Graves, General Sales Manager of the American Rubber Co., Oakland, Cal., who visited with us a few days ago: "The outlook for the immediate future is great — certainly more encouraging than it has been in many years. Our own fire hose sales are running more than 100% ahead of last year and our factory is now operating on a full time basis. So far as I can see, after travelling around the country a great deal, and carefully observing conditions, we have every reason to be highly optimistic, at least so far as the fire field is concerned. There's really a whale of a lot of business in the picture."

● Several other makers of fire equipment also report substantial gains and seem to feel pretty much the same as Mr. Graves does about the general situation.

What could be more refreshing?

The Publishers

P. S. To Fire Chiefs—When you're in the market for new apparatus, hose or anything else, remember there's no better guide than the advertising pages of FIRE ENGINEERING.

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WE EMPLOY NO SUBSCRIPTION SOLICITORS

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Cl-a-ng! The Alarm Rings!

—and when seconds count you can't gamble with tires

Ask Fire Chiefs who are using them. They'll tell you why they demand Goodyears. They'll tell you they can't take chances. They know Goodyears will get them to every fire swiftly—surely—safely.

They want Goodyear Truck Tires because of that safe All-Weather tread. It grips. It holds. It provides 12% more non-skid protection than any other tire. They want Goodyears because they're built with a body of Supertwist cord and special chemically-toughened rubber, that adds strength, durability—resists aging.

They'll tell you Goodyears are veterans in fire-fighting service. They've stood the tests of experience. They've won the preference of Fire Chiefs everywhere. They've held that dominant position through sheer ability to perform better, safer, more dependably than any other tire made.

Your fire trucks, too, should be on Goodyears. Write the Government Sales Department, The Goodyear Tire & Rubber Co., Inc., Akron, Ohio, or Los Angeles, California, for more reasons why, or see your local Goodyear dealer.

GOODYEAR

TRUCK TIRES

D-6849-1 M-36

1. For over 42 years has maintained a continuous record of satisfaction and long service.

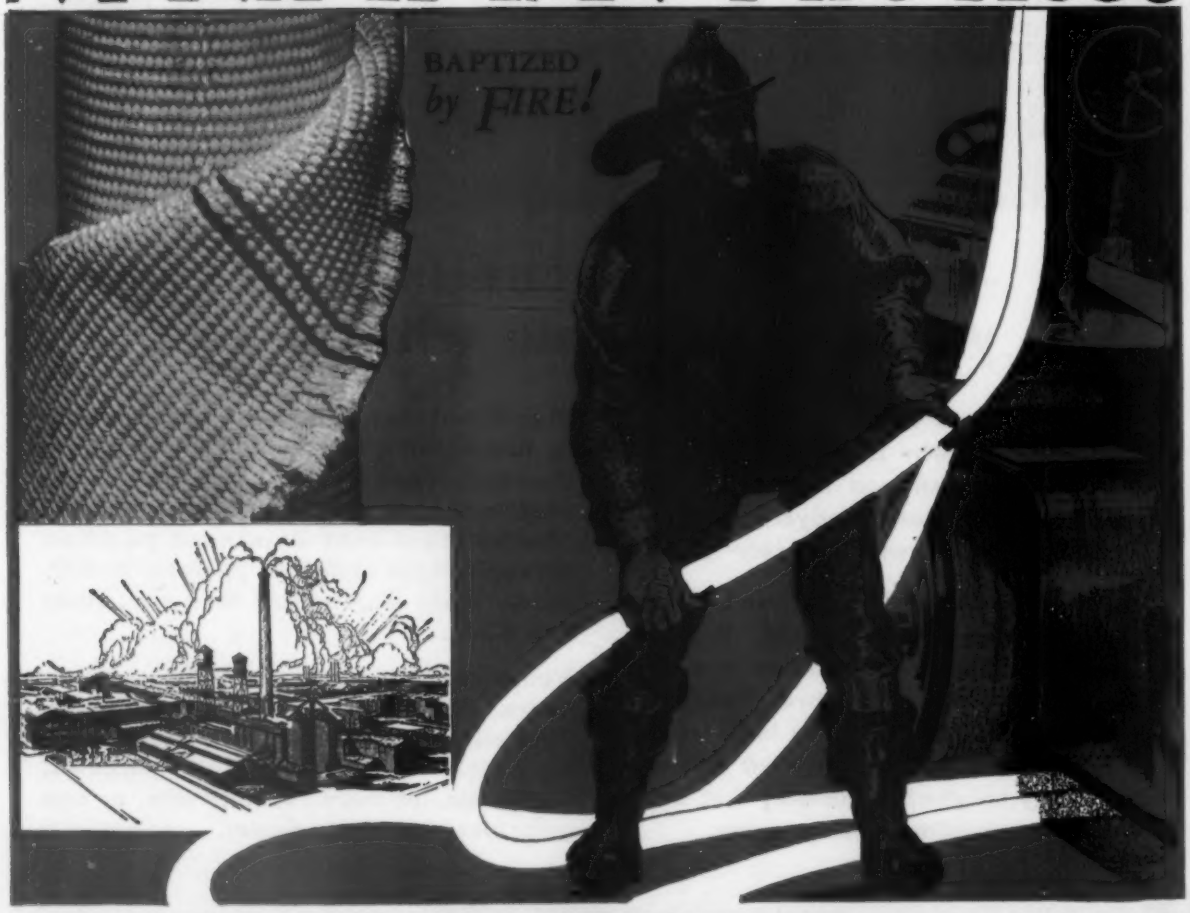
2. Its strong balanced construction materially aids in the ease and speed of handling.

3. In many cases, its use has cut the annual expenditure for maintenance and replacement of fire hose.

4. Thousands of municipal, industrial and private fire departments use Manhattan Fire Hose.

Sole Manufacturers of Radio-Active-Treated Mildew-Proof Fire Hose

MANHATTAN Fire Hose



THE MANHATTAN RUBBER MFG. DIVISION

OF RAYBESTOS-MANHATTAN, INC.

EXECUTIVE OFFICES and FACTORIES, 52 TOWNSEND ST., PASSAIC, N. J.

BIRMINGHAM CHICAGO CLEVELAND NEW ORLEANS NEWARK
MINNEAPOLIS DETROIT PITTSBURGH PHILADELPHIA ST. LOUIS

We shall appreciate your mentioning FIRE ENGINEERING *when writing advertisers*

CHAMPION PUMPER The CHAMPION

CHAMPION 500 PUMPER

"It Has Everything," Fire Chiefs Say!

Incomparable Efficiency! Marvelous Stamina!

● **To the Fire Chief of discernment and enthusiasm,** who wants a quick getaway, a flying start, the Champion has an instant appeal. Its sound and stable roadability, its balance, its feeling of utter security and its safety, are precisely what he wants along with its marvelous performance.

● **Never has he seen a pump like the Champion,** of such tremendous capacity and pressure and yet barely 175 lbs. in weight.

● **Convinced by underwriters' test of Champion stamina,** it is a rare thing for a Fire Chief to take a demonstration of the newest Champion and resist the desire to command it. Try one yourself—and see.

● **Words can't tell you what it's like.** Take a Champion to battle a fire to get the experience. You have to FEEL the thrill of giving it water, the dynamic acceleration and the amazingly effortless speed with which it builds up pressure and gets into action.

● **Darley offers something entirely new in fire apparatus** . . . new pride in appearance . . . new sensations . . . new engineering . . . new safety . . . as well as a price that gives hundreds of Chiefs a chance to command one or more.

● **Darley Engineers check the minute control** of every item entering in its construction . . . no fire truck, we believe, can be made as safe and dependable without these resources, nor without such detailed control of quality from front fender to platform step.

● **Darley Engineers Invite You to Compare** the new Champions with any other Fire Apparatus on Earth. They are offering you as fine a truck as human ingenuity has learned how to design and human skill to build.

● When pumping all the power of the engine goes direct to the pump and not through gears.

● Discarding the old idea of a slow speed motor geared to a high speed pump Darley Engineers designed a high speed pump for direct connection to modern high speed motors. ☞ Champion Front Mounted Pumps HAVE NO GEARS.

● Underwriters 500 G.P.M. tests of Champions are made with Ford Engine at 69% speed ☞ allowing 15 to 33 Horse Power in reserve! ☞ Open the throttle and instead of 500 you get 525 G.P.M. from suction! Or, couple to a good hydrant and throw 750 GALLONS PER MINUTE.

● Champions are not stunt performers! They will do as we say for hours and hours continuously! And into every one is built years of faithful service.

● Darley Engineers will give you any combination of equipment you desire. The Champion pictured is one of many of its kind, built to the order of many towns. The body carries a 200 gallon water tank with a reel for 200 feet 1" booster hose and a basket for 200 feet Leader Line hose with a hose body capacity of 1250 ft. 2½" hose.

● Available in sizes, types and chassis suitable for every kind of fire protection—City, Town and Rural districts.

● **Pay Whatsoever You Want!** Search, where you will, pay whatsoever you want, you can't find better-looking, more efficient fire apparatus than the New Champions. Yet, for all their EXTRA advantages you pay only about half what you might ordinarily expect to pay for anything at all comparable to Champions.

● Darley has established leadership in the fire apparatus field. No one who considers buying fire apparatus can afford to miss seeing the values that Darley—the leader—now offers in Champion Equipment. ☞ As we have no selling organization—PUTTING ALL THE VALUE INTO THE APPARATUS ITSELF—our prices save our customers much money.

☞ We submit our prices direct to you with nothing reserved for salesmen, commissions, traveling expenses, hotel bills, etc.

WHAT A VALUE! $1995

Price includes Champion 500-Gallon High Pressure Underwriter Pump, Ford V8 Chassis and the following:

Steel Body	Powerful Searchlight	Fresnel Lights
200-Gal. Tank	Chromium Plating	Insignia Plates
Hose Basket	Electric Siren	Wind Shield
Hose Reel	Fire Axe	Slatted Hose Bed
Flood Lights	Pike Pole	Platform Step, etc.

☞ **Everything READY FOR SERVICE except your hose and ladder equipment, which are slightly extra.**

Chief McDonnell of Monongah, W. Va., writes his say about Champion!

☞ **Chuck whatever you're doing, for a few minutes, and let's read his letter.**

Monongah, W. Virginia,
Feb. 18, 1935.

Gentlemen:

We are pleased that the pumper exceeded our anticipations and proved to be better than you advertised.

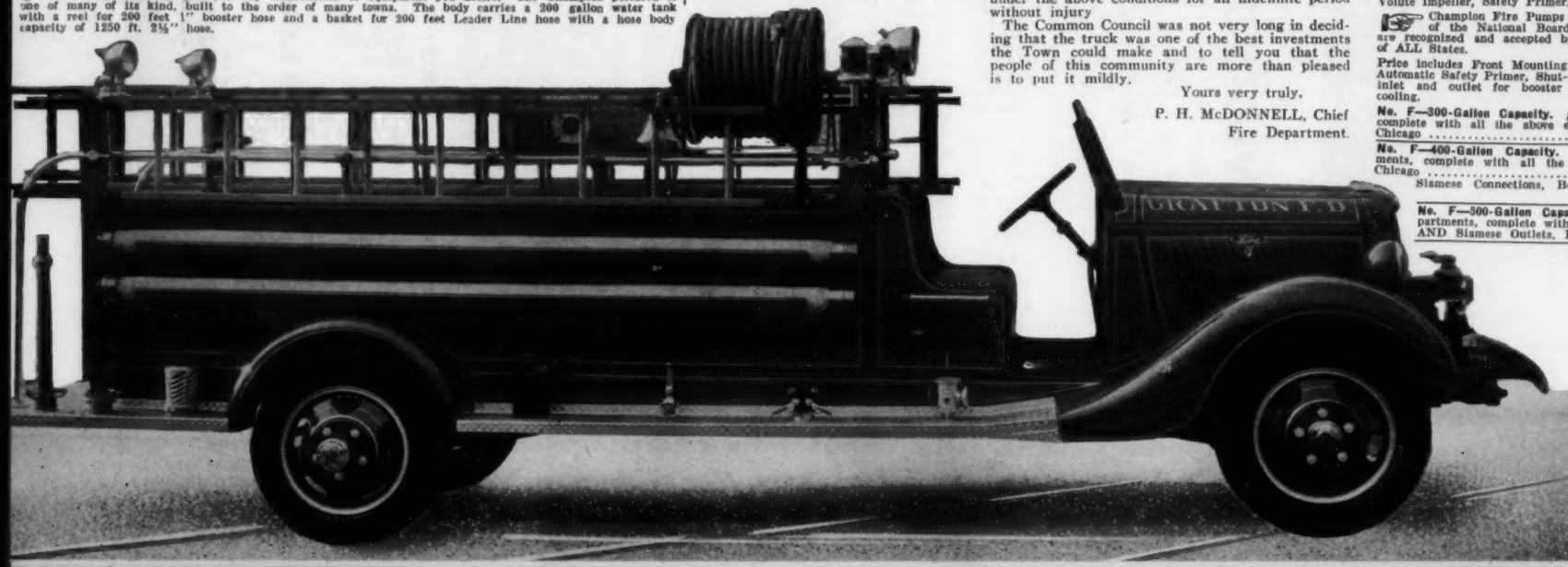
The most noteworthy performance was pumping from a run in the rural section. With a vertical lift of 12 feet and four lines of discharge, with engine running about 75% full speed, we delivered 500 gallons of water per minute for a period of one hour.

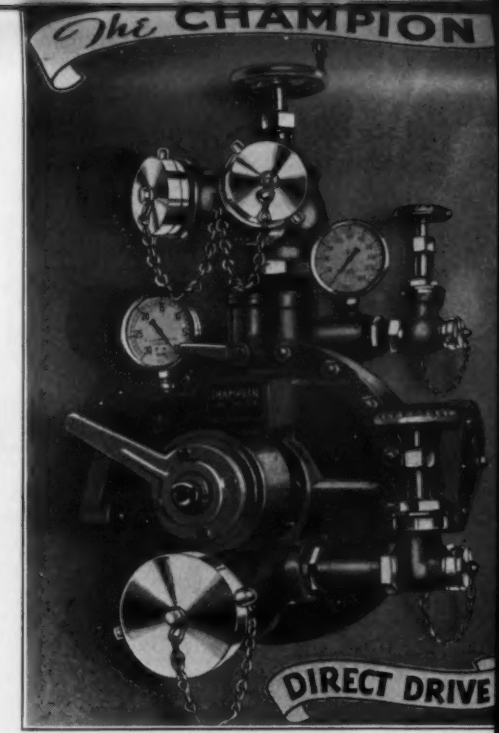
We put the pumper in action on a hydrant and easily developed about 600 GPM throwing FOUR lines of water a height about 75 feet in the air. It would be possible to run the engine under the above conditions for an indefinite period without injury

The Common Council was not very long in deciding that the truck was one of the best investments the Town could make and to tell you that the people of this community are more than pleased is to put it mildly.

Yours very truly,

P. H. McDONNELL, Chief
Fire Department.





It is fair to say that in the building of the Champion, nothing is left undone which will in any way contribute to its excellence. If the Champion pump is a veritable masterpiece of engineering practice, it is so because the high principles set for its building, include Floating Power, Ball Bearings, Friction Clutch, Bronze Volute Impeller, Safety Primer, etc.

☞ Champion Fire Pumps have passed ALL test requirements of the National Board of Fire Underwriters. ☞ They are recognized and accepted by the Actuarial Inspection Bureaus of ALL States.

Price includes Front Mounting Brackets, 300 lb. Pressure Gauge, Automatic Safety Primer, Shut-Off Valve, Brass Caps, with plugged inlet and outlet for booster tank connections, auxiliary motor cooling.

No. F—300-Gallon Capacity. ☞ Net price to Fire Departments, complete with all the above equipment, f.o.b. Chicago **$269**

No. F—400-Gallon Capacity. ☞ Net price to Fire Departments, complete with all the above equipment, f.o.b. Chicago **$315**

Siamese Connections, Booster line Valves are extra, but cost little.

No. F—500-Gallon Capacity. ☞ Net Price to Fire Departments, complete with all the above equipment AND Siamese Outlets, Booster Valves, etc..... **$425**

☞ **Any pump easily attached to any OLD or NEW chassis.**

NOTE: With perfect ease any of the above pumps will exceed ratings by 50 to 92 GPM. And from hydrants will throw 100 to 200 GPM more than ratings.

Established 1908

W. S. DARLEY & COMPANY

☞ THE BEST IN FIRE DEPARTMENT EQUIPMENT

2810 Washington Boul.
CHICAGO, U. S. A.

The Franke Home for Aged, Charleston, S. C. *Scene of fire, March 2nd, reported by "Aero" Automatic Fire Alarm. Loss—none.*

"AERO" AVERTS DISASTER IN HOME FOR AGED

Speed and accuracy of "Aero" Automatic Fire Alarm win praise of Fire Chiefs everywhere . . . .

On the morning of March 2nd, fire broke out in the basement of the Franke Home for the Aged, in Charleston, S. C. The blaze was in a barrel containing rubbish, and certainly would have gained serious headway if its discovery had been left to Chance.

But as soon as the fire started, "Aero" detected it and instantly sounded the alarm. Thanks to the speed and accuracy of the "Aero" Automatic Fire Alarm, a possible disaster was averted. Because the fire department arrived on the scene in *those vital first few minutes,* they were able to extinguish the blaze before any damage had been done to the building.

This typical example of "Aero" performance is being repeated every day in all parts of the country. "Aero" literally *"feels"* the first breath of flame—detects fire automatically—reports it *accurately* and indicates its exact location in the building.

Fire Chiefs everywhere are enthusiastic in their praises of "Aero's" speed and efficiency in automatically detecting and reporting fire. We shall be glad to send to Fire Chiefs descriptive literature which will enable them to explain "Aero's" possibilities to citizens who ask advice on fire protection. Write A. D. T., 155 Sixth Avenue, New York, N. Y.

A. D. T.
Fire Protection Services
"AERO" AUTOMATIC FIRE ALARM,
SPRINKLER SUPERVISORY AND
WATERFLOW ALARM SERVICE.
WATCHMAN SUPERVISORY SERVICE

Controlled Companies of AMERICAN DISTRICT TELEGRAPH COMPANY
155 SIXTH AVENUE . . NEW YORK, N. Y.

A.D.T

A.D.T SYSTEM — A NATION-WIDE PROTECTION SERVICE AGAINST FIRE, BURGLARY AND HOLDUP

LOUDEST
★
COASTS 3 MINUTES
★
USES LESS CURRENT

PLAY SAFE *when you buy new apparatus*

Specify FEDERAL COASTER SIREN

AFTER all, a good run depends just as much on a good siren as it does on good tires. Give your men and equipment the protection they are entitled to.

FEDERAL'S STREAMLINE C-5 "COASTER" SIREN is the result of over 20 years experience in the manufacture of dependable Sirens. The loudest siren we have ever produced, in fact, it is the loudest we've ever heard by actual test. Easy on the battery for it coasts 3 full minutes with free-wheeling ease after current is shut off. You can stop it instantly with an electric brake. It was designed to meet present day traffic conditions—to move the "road hogs" and the "dumb drivers" out of the way. Fast traveling made positive and safe.

Protect expensive equipment, your men and pedestrians. Specify FEDERAL C-5 "COASTER" SIREN on all new apparatus. Write for 30-day free trial on your present apparatus.

FEDERAL ELECTRIC COMPANY

8702 S. STATE STREET CHICAGO, ILL.

"A SIGNAL FOR EVERY PURPOSE"

Reduce FALSE ALARMS with NEW GAMEWELL ARRESTOLARM

FALSE ALARMS from fire alarm boxes can be reduced most effectively by having a local warning signal sound simultaneous to the operation of the box. The loud and distinctive warning shriek of the new **ARRESTOLARM** accomplishes just this — it attracts the attention of police, passers-by and local residents to the box so quickly that the person operating the box cannot escape, at least not without being identified for apprehension later.

The **ARRESTOLARM** Signal is the most practical device now available for reducing false alarms. It is efficient, low in price, economical to install and costs nothing to maintain. Its mechanical movement requires no expensive connection to electrical power lines. Furthermore, it does not discourage the use of fire alarm boxes for legitimate alarms either by trapping the person sending in the alarm or by complicating the method of operating the box.

The **ARRESTOLARM** Signal is attractive—both in design and finish. Its intermittent warning signal is emitted from a well protected horn located in the back of the unit. The complete device is weather-proof, with non-corrosive parts used throughout. And, it cannot interfere with the operation of the box mechanism in any way.

Try out the **ARRESTOLARM** Signal on a few of your boxes which are operated most frequently for false alarms. A trial will convince you of its value. Shall we send you a copy of our descriptive bulletin A3-1?

THE GAMEWELL COMPANY

Newton, Massachusetts

FIRE ENGINEERING

The Journal of the Fire Protection Profession

Volume 88 JUNE, 1935 Number 6

With the Editor

Clearing the Way for Apparatus

The increasing number of accidents to fire apparatus while responding to alarms, one recently costing the lives of three firemen, can be traced definitely to two causes: speeding up of motor traffic and failure to equip apparatus with capable warning signals.

The astounding increase in speed of motor vehicles during the past few years and the development of highly efficient four wheel brakes have resulted in raising the speed limits not only in suburban and country areas, but also within cities.

Unfortunately, most of the fire apparatus at the present time in service is equipped with two wheel brakes and is thus placed at a terrific handicap in navigating through traffic. Because a clearing must be made farther ahead for apparatus in traffic today than in the past, fire apparatus warning devices are called upon for performance beyond the limitations of their original design.

It is surprising that the warning apparatus, although a most important safety device on the fire truck, is frequently given the least consideration. Valuable pieces of fire apparatus, loaded with human lives, are sent rushing through the city streets equipped with a bell or with a small siren that might have been adequate 10 years ago, but which, because it gives a sense of false security, is actually dangerous to use today.

The driver of a fire truck who depends upon an inferior siren to clear the way for him under present day traffic conditions is in exactly the same situation as the motorist driving a car with two wheel brakes, trying to stop quickly in dense, fast-moving traffic. Disaster is likely to result.

The Fire Department's only hope of keeping losses to a minimum and saving human lives is its ability to reach the scene of a fire before too much headway is gained. Fire apparatus must be capable of making speed, with safety, from the station to the scene of the fire, if the full value of the department is to be received.

Large sums of money are spent in equipment to transmit fire alarms accurately and fast; in the design of fire stations to permit quick departure of apparatus; in training men to function without having to waste a moment. Yet a great deal of this investment is lost, as soon as the apparatus leaves the house, unless the apparatus has a warning signal that will clear the way for blocks ahead, so that the traffic can unsnarl itself and come to a standstill while the apparatus passes.

Manufacturers have kept abreast of the times. Equipment is available to Fire Departments to safeguard apparatus and men's lives. There is today no need to send an expensive piece of fire apparatus out in the streets without insuring it by use of an adequate sound warning signal.

It is time that many of our departments take stock of signal devices on their apparatus. It will be found that many of these devices deserve replacement at once with adequate sound warning signals. Old and out-worn signalling devices have no more place on the fire apparatus than old and out-worn tires. And on new apparatus, costing thousands of dollars, only the best in the way of signalling equipment should be included.

Fred. Sheppard

Floodlighting at Night Fires

By N. N. WOLPERT,
Assistant Editor,
Fire Engineering

DURING the romantic period of fire-fighting, a fire at night had all the thrills that a fire fan could desire. Instead of striving for lowered fire losses, the members of the various companies hoped for fire calls, while the residents of the community wished for a small blaze early in the evening to break up the monotony of a regulated, colorless existence.

A fire at night was not to be forgotten. Often the indication of a fire in the district was revealed to members of the department by a pinkish glow in the sky, long before the official fire signal was sounded. When sufficient firemen had arrived at the fire house, the apparatus was moved out and hauled to the blaze. The gallant "smoke-eaters" were preceded by torch boys with lanterns or smoky flares to light the way for the shouting, laboring and much respected group of fire laddies.

Floodlighting and Rescue Car Designed by Clendenin

Once at the fire, the officers experienced considerable difficulty in supervising all the men. As long as the men remained within the dim glare of the kerosene lanterns near the engine, or within the red illumination of the fire itself, the Chief could watch their operations. Once they were outside of these limited zones, it seemed as though the horrors of the night had consumed them. Operations at the back of the building were not carried out because it was too dark and also too hazardous for routine tasks. Perhaps most important of all the reasons was that once outside of the illuminated area, there was no chance to perform for the crowd which had collected.

The so-called romantic days of fire-fighting are now history. Time has watched the discard of the hand pumpers with its bucket brigades, the advent and the obsolescence of the shiny, nickle-plated steamers, and the passing on of the cumbersome early type of self-propelled fire apparatus. Efficiency has supplanted showmanship. To simplify the work of firemen at night fires, departments are now flood-illuminating the burning buildings.

Opinions of Fire Chiefs

In the opinion of Chief Henry Fox, of the Boston Fire Department, the practice of lighting up the fire grounds, is one of the major improvements in fire fighting methods that has been evolved since the introduction of fire apparatus.

Chief Traeger, of the Minneapolis Fire Department, one of the many advocates of flood illumination, believes that lighting is doing as much for the safety of his men as anything that has been devised in fire department equipment.

Much has been done since the days of the torch boys. For example, to better working conditions at night the New York Fire Department used a searchlight which was supplied with power by a steam driven generator. These lights concentrated the illumination at one point, and while they did brighten up some spot, the glare hampered the firemen and often blinded them.

In an attempt to make the illumination of fire grounds independent of local conditions, generator units have been placed on trucks so fitted that large floodlights could derive their power from this mobile power plant. Even though power lines about the burning building are ordered shut off for the safety of the firemen, apparatus provides an independent source of power for lights and even for electrically operated tools as drills and saws.

It has been said that the modern light-car owes its development to the desire of some progressive manufacturer to sell small lighting plants to rural residents. In order to show their product, the small units were placed on trucks and brought to prospective customers. This gave one the idea of using such an arrangement to facilitate the department's work at night fires.

There are many means now available for floodlighting buildings. They include the light-car which is designed as a special unit, and which in addition to the lighting units, often carry appliances for rescue work; small gasoline-generator units which are operated as independent power plants; generators which are operated from the same power unit which furnishes motivation to the truck; small gasoline-electric generators which are taken off the truck and carried close to the burning building; carbide lanterns which are capable of projecting high intensity illumination a great distance, and signal flares which in an emergency may be used for illuminating a wide area for a short period of time; and portable hand lantern.

The small, compact, gasoline engine driven generator, which is readily carried on any existing fire truck, and which can be transported by hand at the fire grounds, has proven itself not only practical, but very useful in fire-fighting work.

Westinghouse Unit at Texarkana

Floodlighting equipment, designed by Westinghouse and mounted on a two-ton chassis, is now in service at Texarkana, Ark. According to information supplied by Chief W. J. Springer, there are three doors on each side of the body and two doors at the rear of the body. A large ventilator is located on top, so constructed, that it can be closed in case of rain.

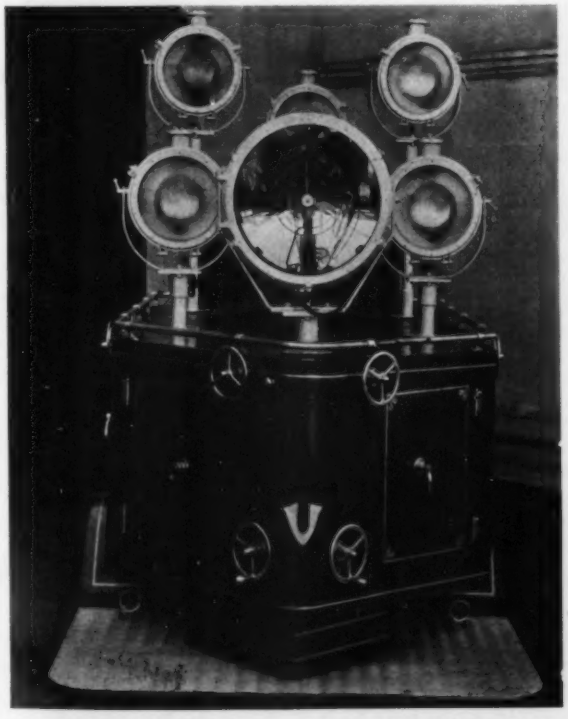
The apparatus has a 15 k.w. generator, direct con-

nected to a 55 h.p. Herculese gasoline motor. Current is supplied at 110 volts. There are five 1,000-watt floodlights with special lenses, each of which can be operated individually by an operator on the ground, so that the beam from one light will not interfere with another. Ten 500-watt portable floodlights are carried inside of the steel body. These lights are connected by cable to the source of power. The reels of wire are located one at each rear door of the body, and the end of each cable has one four-way connection. Each portable light has fifty and one hundred-foot lengths of cable attached. The truck carries extra cable of various lengths for moving the lights a greater distance from the truck. There are ten outlets on each side of the body so that lights can be easily placed in service.

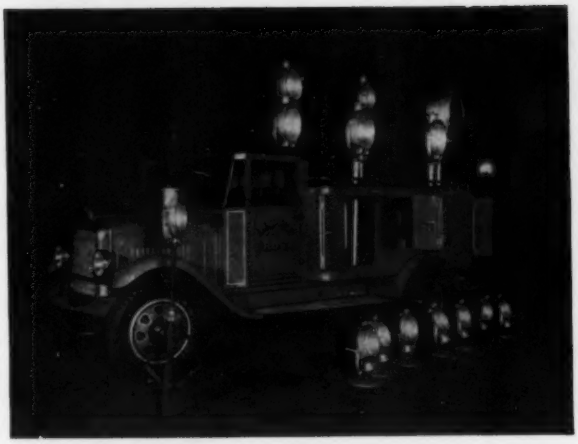
All lights are controlled by an individual switch on a panel board inside of the driver's cab, where all the operating devices are located. The truck may also be used for small electric drills and tools, and can be used to operate electric percolators, so that hot coffee may be served to firemen.

Clendenin Design at Lakeville

Another type of floodlighting car has been designed by John C. Clendenin, which instead of having a separate power unit, has the generator directly connected to the engine that supplies locomotion for the apparatus. The electrical installation of a car designed for the Manhasset-Lakeville, N. Y., Fire Department, includes a 2,000-watt, 110-volt direct current generator which is suspended from the chassis and is driven from the power take off by a propeller shaft with universal joints. Power from this generator is conveyed to five outlets from which it may be directed to the lamps. Two of these outlets are located in the rear on either side, two in the center front, and one on the end of the cable



Rear of Floodlighting Generator Chassis on Texarkana Apparatus



Light-Truck of Texarkana Fire Department

which is assembled on a reel. The cable reel which is under the floor at the rear carries 300 feet of No. 10 wire. By means of a voltage regulator, current is maintained constant to this reel on varying speeds and loads.

Lamp stanchions are placed in the four corners of the car with removable inserts so that the units may be taken from the truck and placed some distance away.

With this design, there is added space in the truck body so that the lighting truck may have compartments for carrying rescue equipment, and additional cable reels, and for transporting men comfortably to the fire grounds.

Whittaker-Upp System

A generator application for gasoline propelled trucks known as the Whittaker-Upp system is offered by the Century Electric Company. Generators are built in three sizes—750, 1,000 and 1,500-watt at 110 volts d.c. These generators, which are self-regulating, are designed to be mounted under the hood of the engine and driven from the forward part of the motor by a V-belt. They may be adapted to all standard gasoline trucks and pleasure cars.

Small Gasoline-Generator Sets

Many manufacturers make small complete power plants which may be installed in a department truck.

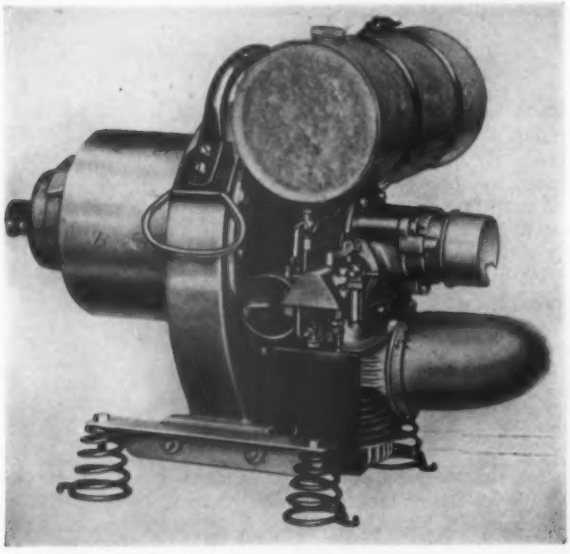
A small complete generator plant of 500-watt capacity or larger is manufactured by D. W. Onan & Sons. The 1,000-watt size measures but 24 by 12-inch in plan and 24-inch in height, while the 350-watt size, the smallest unit made by this company, occupies a still smaller space. By means of cable reels, portable floodlights may be moved some distance from the apparatus. Alternating current of 110-volt, 60-cycle is supplied by these generators.

A small independent electric light plant, which will be found suitable for operating floodlights, is made by the Kato Engineering Company. The small sizes may be carried to the grounds by firemen.

Complete power plants for fire department use are made by the Kohler Company in sizes from 800 watts to 10 k.w. The 1,500-watt size measures 18 x 36-inch in plan by 35-inch high. The power plant comes with either alternating or direct current generators which supplies 110-volt current.

Small generators which can be mounted on the engine block and operated by the fan belts, are made by the Portable Light Company, in 250-watt and 450 watt size. They supply 60-cycle 110-volt alternating current. The small outfit has one portable light, while the other has two portable lights. The 250-watt size is considered suitable for a Chief's car.

A portable electric-generator unit which may be carried on the fire apparatus or removed to a convenient point on the fire grounds, is being manufactured by the Homelite Corporation. This small unit, which can supply current for several floodlights through a multiple connection, generates 110-volt current, and has a special mechanical governor and compound field winding to automatically regulate the voltage of the current without the use of a control board. The advantage of this



Homelite Lighting Plant Complete with Gasoline Engine

unit is that it may be left on the fire grounds to illuminate the area for overhauling work, and the fire apparatus which conveyed the unit, can be returned to the fire station to answer other calls.

For smaller departments, the Portalite Company and the Carpenter Manufacturing Company have floodlights that can be mounted on the apparatus and operated from the regular truck battery. They also have floodlights which obtain their power from light weight batteries.

Portable Lights

After considering the style of generator and apparatus, some attention must be given to the problem of lights. Floodlights may be mounted on the apparatus and operated therefrom, or they may be mounted on a standard which can be taken from the truck. Some of the portable lights are mounted on bases, so that they can be set directly on the ground and operated therefrom. Portable lights are both convenient and important. While the front part of a building may be illuminated by lamps mounted on the apparatus or by portable lights, other movable lights supplied with current through a long cable, must be provided for illuminating the rear of the building where men may be working. The lights are pivoted from a yoke so that the light beams may be directed upwards or lowered. The locking feature on the yoke may be by means of a nut requiring a wrench or a wing nut.

Portable floodlights consisting of hyperbolic reflectors for 100-watt bulbs, and provided with seventy-five feet of extension cord, are sold by W. S. Darley & Co.

Some lamps are so designed that the electric bulb is placed in a vertical position; others which place the lamp in a horizontal position, have an elongated lamp housing to carry the long neck of the larger size bulbs. Lamps particularly suitable for fire department work are being manufactured by the S & M Lamp Company.

As a rule the rubber insulated wire which connects the lamps to the source of electrical power, are made up in fifty-foot lengths. These lengths are connected to form a continuous line, much in the same manner as coupled hose in a hose wagon, and are wound on reels. The more wire that is available, the more flexible becomes the application. The portable lights can then be placed at a greater distance from the generator. However, in a manner similar to hose lines, the longer the line, the greater the resistance.

Reels of rubber covered cable, connected to portable lights and bearing the trade name "Reelite" are available on the market for equipping lighting outfits. This equipment is a product of the Appleton Electric Company.

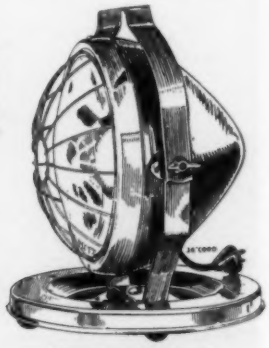
Hand Type Light

There are portable lamps on the market, of strong illumination, which may be carried as a hand lantern. The Wheat lamp is one. The makers say the lamp supplies a light of 25,000 candle power and projects a beam 2,500 feet. It has two bulbs independently operated by the same switch as a protection against lamp failure. The two-cell, 4-volt battery is the rechargeable lead acid type. When fully charged, the lamp will operate for five hours, and then the battery may be charged by a simple charging device.

Wheat Light

Hand type searchlights, especially suitable for department officers, and weighing about fourteen pounds, are made by The Portalite Company, and the Carpenter Manufacturing Company. These lights are operated by

Carpenter Hand Type Light



Darley Portable Flood-Light

batteries to which the lights are attached. They have large parabolic reflectors.

Carbide Light

In addition to flood illumination by means of electric lamps, carbide lamps are also being used. The National Carbide Sales Corporation has designed such units for fire and police emergency work so that one light can supply 8,000 candlepower illumination for a period of more than three hours. Such lights weigh about forty pounds fully charged with two gallons of water and nearly two pounds of carbide. The lights are portable, and by means of a universal joint, the reflector may be directed as desired.

Carbide Emergency Light

Illumination, which will be found suitable for limited operation, can be supplied by means of white flares manufactured by the Central Railway Signal Company. These lights operate by applying friction to the head of the flare, in the same way as a match. The lights are designed to give illumination for thirty minutes.

Lighting up a building and the nearby grounds increases the safety of the men who are working at what might otherwise be highly hazardous tasks. The diffused lights reveal the presence of shafts, dangerous openings, weakened walls, and other conditions that would escape unnoticed in the dark. Night illumination of buildings has facilitated rescue work, both of occupants of buildings and firemen trapped at some hazardous point.

Light Increases Confidence

Darkness instills fear. It is chiefly for that reason that rescues made from buildings at night are so much more difficult. Even the seasoned fireman who has been trained to meet emergencies such are encountered in fighting fires, feels more confident when he is working where he can see the other members of his company and where he can be seen by them. Darkness brings with it a morbid feeling of isolation, of doing a Herculean job alone. Chiefs who have inaugurated floodlighting as a standard practice at night fires, report an improvement in the morale of the men, evolutions performed in better time, and the tasks performed more efficiently. Even though the repetition of some particular task day by day brings with it a degree of mechanical ability, this second-sense dexterity cannot be expected where the men must work by sense of touch alone. To those who doubt this simple statement, make the simple test of directing the most efficient crew to couple a hose line during daylight hours, and then to note the time required for the same task at night with poor or little illumination.

Whether or not floodlighting of buildings and grounds at night should be employed by the fire department, is not a debatable fact. The ever-increasing list of fire departments using floodlights is practical proof that the practice is sound and necessary. The problem is merely one of what type and how large a unit the department should purchase.

SPECIAL APPARATUS BUILT FOR PROTECTION OF ELEVATED HIGHWAY

Jersey City Fire Department Constructs Unit Carrying Its Own Water Supply at Little Cost at City Repair Shop

TO furnish fire protection for the Pulaski Skyway, an elevated thoroughfare of Jersey City, N. J., the Fire Department designed and constructed a special unit which carries its own water supply and chemical solutions. The skyway has a large automobile traffic, but is without any water supply in case of fire.

The truck is of 7-ton size, on which are mounted a 600-gallon water tank, and two 60-gallon chemical tanks. On the left running board, just back of the cab, is an F-3 Barton centrifugal pump of 100 g.p.m. capacity at 200 pounds pressure. The suction of this pump is connected to the booster tank at the forward bottom end. In the pipe line is placed a suction shut-off valve.

The discharge from the pump is connected through a flexible pipe to 1½-inch pipe rigidly attached inside of the body. The pipe lines are so arranged that two or three 1½-inch hose lines, using small nozzle tips can be used simultaneously, or the water can be carried through the two lines of chemical hose located on the chemical hose reels. Either all the 1½-inch standard discharge hose may be used, or the two chemical lines, or a combination of both.

The unit has a foam generator and a hopper for mixing the chemicals. The pump delivers the water direct to the generator. It carries an Akron fog nozzle for use with the small diameter hose. When using the fog nozzle at 125 pounds pressure, the 600-gallon tank will supply water for twenty-five minutes.

A jack shaft is located underneath the chassis, and power from the Mack engine is transmitted to the shaft by a ⅝-inch pitch, 4-inch wide Whitney silent chain. From the jack shaft the second speed increase is carried to the power shaft, mounted on the running board, connected by three-jaw clutch coupling direct to the drive shaft of the pump. The chain drive from the jack shaft to the pump drive shaft is also of the same design.

The truck was assembled at the department shop, using a 600-gallon water tank formerly in service by the Department of Parks and Public Property. The two chemical tanks were taken off old Turret wagons, which had outlived their usefulness. Other parts were salvaged from old fire apparatus, and new parts used wherever needed.

The apparatus carries three hundred feet of 1½-inch hose and two hundred feet of chemical hose. In addition to the

(*Continued on page* 246)

Test of Pump and Tank at Department Drill Tower

History of the New Bedford Fire Department

By HARRY BELKNAP

Chief Edward F. Dahill

CHIEF EDWARD F. DAHILL, of the New Bedford, Mass., Fire Department, host to this year's convention of the New England Association of Fire Chiefs, is one of the outstanding fire officials of America. A veteran by training and experience, he is alert and progressive, always ready to adopt new devices that have proved practicable. He, himself, has contributed much to the science and development of fire fighting, having invented several tools and appliances including the famous "Dahill Hoist" for aerial ladder trucks, which he perfected in 1903. He obtained patents on this simple, quick raising device in 1904, 1908, 1911, and 1924 and the improved hoist is now built exclusively by the Ahrens-Fox Fire Engine Company, of Cincinnati, O.

Career of Chief Dahill

The Chief was born January 27, 1862, and was appointed to the New Bedford Fire Department in September of 1888. He was promoted to captain in 1894; became second assistant engineer in 1896, and first assistant engineer in 1902. He was made Chief of department in June of 1904. Under his able administration new fire houses have been built and the department completely motorized. In 1916 and 1917 four electric aerial hook and ladder trucks were placed in service in New Bedford. They were built by the Couple Gear Freight Wheel Company, of Grand Rapids, Mich., and rendered reliable, efficient service in the days when gasoline propelled vehicles were still in a state of change and development for fire department use.

Chief Dahill is a Past-President of the Fire Chiefs' Club of Massachusetts and of the Massachusetts State Firemen's Association and a member of the New England and International Associations of Fire Chiefs. He is a real booster for New Bedford and has worked hard this year to assure a program of interest for the convention visitors.

The New Bedford Fire Department

The Fire Department of New Bedford has eleven houses, including ten of brick and one of frame construction, the latter to be replaced by a new brick station now nearing completion at the corner of Tarkiln Hill Road and Ashley Boulevard. The headquarters building contains a large floor for apparatus, sleeping quarters, smoking room, officer's rooms, and Chief's office. This is a handsome three-story structure and one of the largest central fire stations in New England.

Fire Apparatus and Equipment

The apparatus in service consists of eight motor pumping engines, four electrical aerial ladder trucks, one city service ladder truck, three hose wagons with booster equipment, one foam chemical, five automobiles for Chief and assistants, one automobile for the fire prevention bureau, one supply truck for the repair force, and one supply truck for the fire alarm branch. One new Ahrens-Fox 500-gallon pumper was purchased last year. The apparatus in reserve consists of one motor combination pumping engine, three motor combination chemical and hose wagons, three steam fire engines equipped with short towing poles, and two reserve automobiles. The department has 21,600 feet of hose and 88 salvage covers. The manual force consists of 192 permanent men.

The principal fire department officers are as follows: Chief of Department, Edward F. Dahill; Deputy Chief, James J. Donaghy; First District Chief, Frederick E. Ricketson; Second District Chief, Ambrose F. Merchant and Third District Chief, Miles L. Fay.

Fire Alarm System

The fire alarm system is under the general supervision of Chief Dahill and is maintained by Assistant Superintendent of Fire Alarms Robert E. Allen. Headquarters is on the first floor rear of the three story fireproof fire department headquarters building. Equipment is of the manual type and includes a 25-circuit box relay board, a 6-circuit primary and a 6-circuit secondary alarm board, a 40-circuit protector board, a 40-circuit charging board, five 5-circuit perforating registers for box circuits, two 6-circuit registers with time stamps for alarm circuits, a punch register and time stamp common to all box circuits, two manual transmitters, a primary circuit repeater, two motor generator sets on a separate 550-volt power circuit, and a telephone switchboard.

Alarms are received at each fire station on a gong and punch register on a primary alarm circuit and a gong

Fire Headquarters, New Bedford, Mass.

on a secondary circuit. Tower bells are installed at eight stations and a steam whistle is maintained at the street railway power station. There are 20 box circuits in use. Seven fire alarm operators are employed, with two men on each of three shifts. The alarm equipment was made by the Gamewell Company, of Newton, Mass.

Early Apparatus of New Bedford

Organized fire protection in New Bedford began in 1772, when Joseph Rotch, one of the original settlers of Bedford Village, purchased a hand fire engine built in London, England, by Richard Newsham. It was named "Independence No. 1" and was fitted with double pumps worked by side brakes, the water being supplied to the engine by buckets. The next engine was "Citizen No. 2," built by Philip Mason, of Philadelphia, Pa., in 1802. This was purchased by subscriptions from property owners and presented to the town.

In 1805 Oxford Village, Fairhaven, then a part of New Bedford township, purchased an engine from Philip Mason, of Philadelphia, and this was called "Oxford No. 2."

In 1808 an English built engine was purchased in Boston and was named "Phoenix No. 4." The first engine owned by the lower village of Fairhaven was called "The Flood, No. 1." In 1836 Dyer & Richmond, of New Bedford, built the first suction engine for the town of Fairhaven and this was called "Columbia No. 3."

The Bedford Fire Society was organized on March 4, 1807, with Joseph Ricketson as moderator and Abraham Sherman, Jr., as clerk. Each member of this society was required to keep constantly in good order and hanging in some convenient place in his dwelling house two leather buckets and two bags. At the alarm of fire each one was to "immediately repair" with his buckets and bags to the dwelling house, shop, or store of that member whom he believed to be most in danger and to use his best endeavors by the direction of the owner, if present, to remove and secure his goods and to return them to him again, free of expense.

House Saved But Turned Blue

Among the amusing incidents of the early days of fire fighting in New Bedford as recounted in Mr. L. B. Ellis' book entitled "History of the New Bedford Fire Department" are the occasion when one of the stalwart volunteers had been using his fire bucket to keep beans in and forgetting their presence he dumped the contents into the engine which was made useless for the time being. In 1833, Perry Russell's Prussian blue works, located at the corner of William and Sixth Streets, took fire in the night and burned to the ground. A nearby house was in great danger and would have been consumed but for the vigorous efforts of the firemen. One of these, Captain Humphrey W. Seabury, helped drag one of the engines into the yard, and, finding the well had given out, took the contents of one of the vats to supply the engine. The owner of the house had the satisfaction next morning of seeing his house saved from the flames and of finding it blossomed out with a new color—a beautiful blue!

First Formal Organization

An act to establish a fire department in the town of New Bedford was passed by the legislature on January 30, 1834, and this was the first formal organization. The governing power was vested in a board of 18 fire wards, who elected three engineers. The engines at this time were "Independence No. 1," "Citizen No. 2," "Engine No. 3, at Head of the River," "Phoenix No. 4," "Columbian No. 5," and "Mechanics No. 6."

The "Novelty No. 8" was a hand engine built by William Durfee and was purchased by the town in 1835. It was furnished with rotary pumps, worked like the capstan of a ship, the men pushing the bars having a "jolly walk around."

Horses First Used in 1841

In 1841 horses were provided to facilitate the response of the hook and ladder company to alarms. In April of 1842, the Fire Department was reorganized, with a force of 378 men, each entitled to ten dollars a year for his services. Two new hand engines, "Hancock No. 9" and "Franklin No. 10" were purchased and placed in service in 1843. On January 30, 1844, a destructive fire broke out in Samuel Leonard's oil works and caused damage estimated at $60,000. In 1846 a new engine, "Oregon No. 11" was purchased from Merrick & Agnew.

Two new fire companies were the "Acushnet No. 4" and "Young America No. 8."

One of the worst fires in the history of the city occurred on August 24, 1859, starting at noon in the planing mill at William Wilcox and rapidly spreading to oil storage sheds and wharves. The ship "John and Edward" was burned at the Richmond & Wilcox Wharf. A sash, door, and blind factory, a spar yard, carpenter shop, lumber yard, cooperage, ship chandlery, and many other buildings were destroyed. Several

New Bedford State Armory, in Which Meetings and Exhibits Will Be Held

Upper—Fire Station No. 8, New Bedford. Lower—Fire Station Nearing Completion

houses were blown up in attempts to stop the flames. About 20 buildings were burned with a loss of $254,575.

Rivalry Between Volunteer Companies

The records of the volunteer days are replete with tales of the intense rivalry that existed between the various companies in obtaining "first water" at fires and of the accounts of picnics and excursions to nearby points which the firemen enjoyed to the utmost.

The first steam fire engine was purchased by the city government soon after the big fire of 1859 and was a rotary machine built by the Amoskeag Manufacturing Company, of Manchester, N. H. It was called "Onward No. 1" and went into service in February of 1860.

Even Royalty Must Heed a Fireman

Considerable of a tempest has followed because a fireman, in following the best interests of fire protection, ordered the Duke of Gloucester to extinguish the cigarette he was smoking. His Highness did, but as a result, the news was wired all over the world, the Mayor apologized, and other explanations followed.

His Highness attended a ball held at Toowoomba, Queensland, Australia. There were many flimsy decorations. A fireman stationed there went over to guests at several tables and asked them to stop smoking. They replied if the Prince could smoke, they could too. The fireman said that he hadn't seen the Prince with a cigarette, but that when he came to him, he would speak to him.

At the long table at which were seated the honored guests and officials, the Prince was smoking. The fireman stood beside his chair and respectfully said:

"I am sorry, Your Highness, but I must ask you to stop smoking. The risk of fire is very great."

The Prince complied, but the Mayor considered the matter as "most monstrous." Some time ago the hall was partially damaged during an exhibition, and since then firemen have attended the various functions to prevent smoking.

Lightning Protection Saves Grain

The value of lightning protection, approved by the Underwriters Laboratories, was demonstrated by the experience of the Grain Insurance and Guarantee Company, which places insurance on grain elevators in the prairie provinces of the Canadian Northwest.

During the first year since such elevators were protected, six were struck by lightning, although it is believed that others may have been hit, that were not reported to this company. All of the six elevators were full of grain, and had they been total losses, the average loss per elevator would have been about $25,000. The company did not suffer any loss due to lightning, as the result of the approved lightning protection.

Firemen Live Longer Than Clergymen

Firemen, who slide down poles many times a day to answer fire alarms, have a lower death rate, in spite of their calling, than clergymen, lawyers, or judges. This rather startling information was contained in a report recently completed by the National Tuberculosis Association, containing the results of a 5-year study of the effects of occupations on the life span.

The rate for firemen is 6.71 for each 1,000 employed, that for clergymen, 10.33, and for lawyers, judges and justices, 7.89. College professors and college presidents enjoy the greatest longevity while aviators have one of the highest death rates. Surgeons and physicians have a rate of 10.69 and garbage men, 11.39.

Ready to Fight Fire with Cannon

When the 80,000 barrel storage tank of the Shell Petroleum Company was struck by lightning and caught fire in May, firemen fought it by bringing in a 3-inch cannon from a nearby tank farm. The cannon was not needed, but its use was to help keep the oil into the pit and enable it to burn faster. The tank collapsed, however, and the oil ran into the pit without assistance.

The fire occurred on the Shell lease seventeen miles southwest of Big Spring, Texas. Huge clouds of smoke from the tank, with its 35,000 barrels of oil, so filled the sky that they were sighted fifty miles and more away.

Firemen made an effort at first to pump the oil from the

The Result of a "Boil-Over"

This photograph was taken after the third "boil-over." The destruction of the tank, released the oil which flowed into a pit, and burned rapidly.

blazing tank, but the pumps were clogged by wood and debris from the roof that fell in after the lightning stroke.

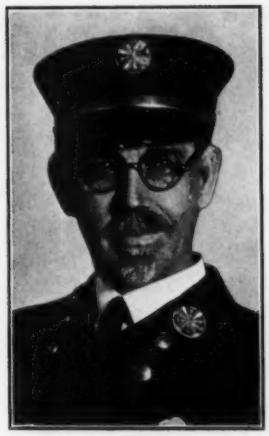
The tank boiled over three times before the steel rims burst. When the tank burst, about twenty-five feet of oil flowed out into the pit and ignited with a tremendous roaring blaze.

O. R. Parsons.

CHIEF JOHN S. PACHL
President
Annex Fire Dept.,
New Haven, Conn.

CHIEF CARL D. STOCKWELL
Second Vice-President
Burlington, Vt.

CHIEF SELDEN R. ALLEN
Ex-President
Brookline, Mass.



CHIEF JOHN W. O'HEARN
Secretary-Treasurer
Watertown, Mass.

CHIEF O. T. SANBORN
Director and Ex-President
Portland, Me.

CHIEF F. F. DICKINSON
State Vice-President
Brockton, Mass

CHIEF DANIEL B. TIERNEY
Past-President
Arlington, Mass.

CHIEF M. W. LAWTON
Directo
Middletown, Conn.

CHIEF JOHN C. MORAN
Ex-President
Hartford, Conn.

CHIEF A. H. KOLTONSKI
State Vice-President
Rutland, Vt.

CHIEF HENRY E. FORTIER
State Vice-President
Manville, R. I.

CHIEF J. W. RANDLETTE
State Vice-President
Richmond, Me.

OFFICERS, DIRECTORS AND EX-PRESIDENTS, NEW ENGLAND ASSOCIATION OF FIRE CHIEFS

Teaching Fire Safety in the Schools

Excellent work accomplished by Chief Claude W. Corning in the schools of Seattle, Wash., through the enlistment of the interest of both teachers and scholars in the subject of Fire Prevention

Chief Claude W. Corning*

THERE is perhaps no part of the education of the present day child that is more important to his well being both present and future than a thorough training in matters pertaining to safety. Carelessness, which is the cause of a large majority of all accidents that result in injury to either persons or property, can best be eliminated by carefully training the mind to recognize the many attendant dangers of every day life. Such training if started in early youth and carried on through the school years will result in a generation of safety minded citizens who will by their own every day application of that training, greatly reduce the losses now suffered both to life and property.

It is the duty of every public official charged with the safeguarding of the public not only to prosecute the violators of laws and ordinances but to carry on a vigorous campaign of educational work which will eliminate the causes of these violations. Believing that such educational work will result in the elimination of those careless acts which cause fires and many times deaths, the Seattle Fire Department has started a safety campaign in the schools which promises results far greater than could ever be anticipated.

Chief Moves for Standard School Fire Drills

Shortly after Chief Claude W. Corning had assumed command of the Fire Department, the duties of the Fire Marshal were transferred to his supervision, and a Captain was placed in active charge of that division. Because of his many years of close association with the public schools, both as a father and as a fire officer, Chief Corning knew that the school is the proper place to train the young mind, not only in the three "R's," but also in the rudiments of fire prevention and safety. That a more intimate knowledge of conditions in all schools might be had the Chief ordered a thorough inspection be made and a fire drill held in every high school and elementary school in the city.

Accurate records were ordered to be kept of the manner of transmitting fire drill signals, time to empty building, discipline, search of building, assistance to cripples, general interest of principal and teachers, etc., and where hazards or unsafe conditions were noted correction notices were forwarded to the School Board. A careful study of the inspectors' reports on fire drills revealed a complete lack of uniform regulation on the conduct of these drills, and in consequence a proposed standard fire drill was drafted for high schools, and a similar one for grade schools. These were submitted to the School Board and Superintendent of Schools, together with a detailed report of the inspection and drill at each school. As a result of this action the proposed drill was offered to a special committee of school principals and upon their recommendations the School Board adopted the drill as standard, and ordered it printed in the School Manual.

A recent recheck on school drills reveals that both

Upper—Principal Annie L. Gifford and the Safety and Fire Drill Officers of Longfellow School, Seattle. Lower—Drill Formation at One of the Fire Exits.

Marching formation is maintained at all times. Exit drill time approximately two minutes. This is one of the old type three-story frame buildings, with open stairwells and undivided attic. It has 650 students. Miss Gifford opened this school in 1903 and has always been a leader in fire drill work.

*Chief Corning was born in Terry, Mont., January 3, 1890. He came to Seattle with his parents when about three weeks old. Has lived there continuously since then. He graduated from Grade and High Schools and entered Seattle Fire Department, April 2, 1913, when the two platoon system went into effect. He successfully passed Civil Service Examination for Lieutenant and on May 27, 1919, was appointed Lieutenant and assigned to Truck Co. No. 5. As soon as eligible he took Civil Service examination for Captain and was appointed Captain of Truck Co. No. 7 at Headquarters Station on July 23, 1922. From September 12, 1921, to the time he was appointed Captain, he was detailed as Assistant Drill Master. Again taking Civil Service promotional examination he passed No. 1 on the list, was appointed Battalion Chief on January 1, 1929, and was assigned to Battalion No. 5. On June 10, 1932, Chief Corning was appointed to the command of the Fire Department. Chief Corning is a member of the Washington State Association of Fire Chiefs and a member of the Washington State Firemen's Association. He is married and has two children in the public schools of Seattle.

students and teachers have taken a lively interest in the standard fire drill regulations, the result being a greatly increased discipline during the drill and a corresponding lessening of the time necessary for pupils to leave a given school building. With the adoption of the long continuous ringing of bells as a standard fire signal, instead of the several intermittent long and short rings formerly used, a child may now pass through grade, high schools and universities and out into vagaries of the business world where still he will find the continuous ringing of bells to be a fire danger signal.

Safety Units Formed in Schools

During the past year a more advanced work has been carried on in the nine high schools, where safety units have been organized. This movement was started at the Roosevelt High School, where about 2,500 students attend. When the plan was suggested to V. K. Froula, the Principal, he immediately recognized its merit, and gave every assistance in its formation. The object was to train groups in each school who would take an active interest in all matters of Fire Prevention and Safety. Study material was furnished by the Fire Department and on many occasions our instructors took active charge of the classes in the school rooms. As a result of this work there are now over 300 high school students who are qualified speakers on safety subjects and who are available to the Department on request for any occasion, receiving full school credit for such work.

During the training of these students special arrangements were made with the seven local radio stations whereby they donated daily time to the students that they might gain actual speaking experience. Other speaking engagements were also arranged before various organizations. Twenty-four short plays or dramatizations of 15 minutes each were also prepared and presented over the radio. The work of these safety units is gradually spreading to larger fields and it is hoped will become so valuable that it will gain a permanent place in the curriculum of all of the schools.

Coroner's Inquests Held in High Schools

A further means of safety education was arranged with the cooperation of the County Coroner by holding two coroners inquests, on deaths caused by accidents, in the auditorium of high schools with all students in attendence. After the jury had retired the students were allowed to ask questions and pass comments. From the results obtained there is no doubt but that this is a most effective means of bringing about a better understanding of life's responsibilities by the younger generation.

Campaign for Safe and Sane Hallowe'en

To further emphasize the value of these safety units it was decided to inaugurate a campaign this year for a safe and sane Halloween. The Superintendent of Schools had student representatives of all high schools and all grade schools meet with officials of the School, Fire and Police Department, and a plan was outlined. Speakers from the high schools were sent to the grade schools to give talks on the subject and each school organized a special group to patrol the districts on Halloween evening. A careful check was kept and another meeting held after Halloween at which each school gave a verbal report, to be followed by a written report of just what was done by their schools to create interest in the plan and just what damage was done.

The results of this campaign were so far beyond any expectations that this plan was at once adopted as an annual measure. Whole districts of the city which have formerly been the most troublesome to the Police and Fire Departments were so well supervised that not a false alarm or police call was registered for them. Damage to property was almost nil, where school buildings alone usually have suffered several thousand dollars damage. Only ten false alarms were registered in the whole city, and several of these were manifestly sent in by grown up people in the early hours of the morning.

Teachers and Students receiving Instruction in the Proper Handling and Operation of Fire Extinguishers

To anyone at all interested in the safety field it can be readily seen that the close cooperation of the school and city officials and the enlisting of the school children themselves in the furtherance of safety measures will produce not only immediate but lasting results, which will reflect great credit to all concerned. The Seattle Fire Department is proud of its accomplishments along these lines and believes that plans now being formed will in years to come pay a large dividend in the reduction of losses, both to life and property. The careful training of our youth along such lines can only have one result—a better fitted and more capable citizen to take up and carry on the responsibilities and duties of our civic government.

Toledo Firemen Get Three Platoons

Following a conference with various city officials, it was agreed to establish an eight-hour day for members of the Toledo, Ohio, Fire Department. Members of the Toledo Firemen's union asked for the restoration of pay at the rate of $150 a month or the eight-hour day.

Mayor Klotz said that it would be impossible to restore the wages of firemen or add the thirty to thirty-five additional firemen who would be required for the three-platoon plan. He said that four or five fire stations will be closed and the crews combined so that the eight-hour day will be possible. Beds will be removed from the stations, and the men will have no time off for meals. They will have one day off each week.

Department Emblems May Be Displayed

New York State has a law which prohibits the use of insignia with the words, "Fire Department," "Fire," or the letters "F. D. N. Y." to indicate that an automobile is owned or used by a volunteer fireman.

According to information supplied by John T. Bennett, Jr., Attorney General, New York State:

"There is nothing in the law which forbids members of various associations and fraternal organizations attaching to their automobiles emblems or insignia indicative of their membership. I should say that a volunteer fireman might lawfully use on his personally-owned automobile an insignia or emblem indicative of his membership in the volunteer fire company of which he is a member, provided such insignia or emblem avoids the specific words barred by the section and is divorced from any wording or lettering indicating that the emblem is a fire department vehicle."

Discipline Among Volunteers

From the Chief down, the Volunteer Fire Department requires discipline to secure the proper cooperation and efficiency of the service. In a successful organization, discipline must pervade the entire fabric of the department.

By ROBERT H. LOCKWOOD,
Associate Editor, Fire Engineering

FIRST, as to the Chief of the Fire Department in relation to discipline. In order to command the respect of his men—and without that respect it is vain for him to hope for true discipline—he must be worthy of this respect. He must be a man among men. He must be thorough in his knowledge of all branches of his profession of Fire Fighting. He must have a working knowledge of hydraulics; of chemistry—at least as far as the science relates to combustibles, explosives, and the toxic effects upon the human system; he must know enough of the science of building and construction to recognize the various hazards to be encountered in this branch of his profession. In simple language, he must be a "jack of all trades."

Besides this, and equally important, he must be a keen student of human nature and must be able to judge men according to their gifts and abilities. He must have himself firmly in hand in all emergencies calling for diplomacy and self-control. He must be absolutely impartial in his judgments and decisions and his men must be made to realize that what he says he means. Above all, he must have no favorites and show no partiality in his relations with his men.

Selecting the Subordinate Officers

The next matter of importance is the selection of subordinate officers. Perhaps one of the most unfortunate practices of a volunteer force is the choosing of officers, not for their ability, but by reason of their popularity or goodfellowship. This is one of the worst pitfalls of the volunteer system and one which works more against proper efficiency than any other factor. On the other hand, it is, perhaps, the most natural result of an organization which, of necessity, must partake of a social nature. It is a mistake that is hardest to overcome and yet one which has a most vital effect upon the efficiency of the volunteer organization.

The Assistant Chief

One of the first officers to consider is that of Assistant Chief. This man should be chosen with the idea in mind that he must be prepared to step into the breach at a moment's notice, in case of the incapacity, injury or death of the Chief. Whether the office of Assistant Chief is a separate one or simply, in the case of a small department, a designated one to be held by one of the captains, this quality should be borne in mind in selecting the individual to hold the office. He must be one who will hold the men together until the Chief can resume command or a new Chief is chosen. Nothing can disintegrate any such organization as a volunteer Fire Department quicker than the temporary lack of a competent head.

Responsibility in Choosing Officers

The choosing of the subordinate officers is a matter of great importance. When this is performed by the men themselves, the danger of popularity overweighing ability is a serious problem. If the Chief has a voice in deciding the personnel of the officers, well and good. If not, the responsibility rests upon the shoulders of the men and they should be educated to choose those best suited to lead them in the serious work of fire fighting, where a wrong command may mean loss of life or the destruction of valuable property.

In the selection of the Captains for the various units of the organization the problem is—in a lesser degree—very similar to that involved in the choice of a Chief of the department. On this choice will largely depend the efficiency in fire fighting and the success in the social organization of the unit. He must—like the Chief—be a leader and must have the faculty of bringing harmony where discord tends to develop.

Cooperation Between the Units

Where the Fire Department is composed of more than one company, it is very essential that there be a cordial cooperation between the units composing it and explicit obedience to the commands of the Chief. Without this, the department will be a house divided against itself and it must of necessity fail in achieving the best results. This does not, of course, mean that there shall not be a friendly rivalry between the various companies composing the department. Such competition in excellence is a splendid incentive to perfection and will work toward the efficiency of the whole. But the rivalry must be of a friendly nature—just as soon as it becomes acrimonious or the qualities of jealousy or ill feeling creep in, danger lurks in the situation and it will require all of the diplomacy of the Chief to remedy such a situation, if that be possible. He should therefore watch carefully to avoid any such feeling among his men and nip anything of the kind in the bud.

Advantages of a Permanent Chief

The fact stands out very distinctly that the Fire Department which elects—or appoints—its Chief for a tenure of office as long as he shows his capability to hold his position with honor and efficiency, will in the long run make a better showing than the one which elects a new Chief every year.

It stands to reason that the yearly change means that the men have got to get used to the methods of the new man, his difference of vision, his peculiarities. And just as soon as they have readjusted themselves to this situation, along comes another election and the process has to be gone all over again. Whereas, the members of a department which has a Chief who has served with them for several years, know exactly what is expected of

them and—provided, of course that the head of the organization has the respect and confidence of his men—will follow him through any danger, knowing full well that they can rely upon his judgment and the correctness of his methods. Therefore, from the standpoint of an observer, a set of permanent officers for the volunteer organization seems the wisest plan.

Discipline All-Pervading in the Fire Department

The subject of Discipline—if one considers it broadly—pervades the whole fabric of the fire service. It enters into the drills and training of the men in a most essential sense. It is a necessary component of inspection by the department. Discipline in the volunteer Fire Department is much the same as that in the National Guard. The citizen soldier and the citizen fire fighter are very similar in their situations. Each volunteers for service in a war, and perhaps the fire fighter has the most relentless enemy to encounter. In each case, often the private may be better blessed with this world's goods than the officer—but, when the uniform is donned and when service is called for, distinctions of whatever nature are forgotten and obedience to discipline is the order of the day. The love of the organization must transcend all other considerations and loyalty and obedience to its principles must guide all of its members—from the private to the Chief—in their conduct.

The Matter of Inspections

In the matter of inspections, I do not think I can do better than cite the case of Providence, R. I. While, to be sure, this department is a paid one, nevertheless, I can see no reason why some such plan as that inaugurated by Chief Charlesworth could not be worked out for a volunteer Fire Department with considerable success. This is a yearly inspection of dwelling house cellars. The Chief took the precaution first to sell his idea to his Battalion Chiefs and Captains, and to insure their hearty cooperation. He then inaugurated a campaign of publicity. The plan was publicly endorsed by the Fire Commissioners, Mayor and other public officials and for some weeks before the event, the local newspapers carried articles describing the objects of the drive and how it was to be conducted by the firemen. The result of this publicity was that many householders started cleaning up before the drive; so much so, that the incinerators of the city were overtaxed for a week before the firemen started their inspections. Out of 77,077 inspections of cellars, the firemen only had 288 refusals. At each home inspected, permission was first asked to enter, and if a refusal was encountered, the men passed on to the next house. A booklet was left at each house, calling attention to the common hazards of fires, and a "cooperation" card to be placed in the window or hung in the kitchen. The inspection was carried on along the lines of education to instill into the minds of householders that 85 per cent of fires are in dwellings and the majority start in cellars. There is no reason why some such yearly campaign could not be carried on in every city and town serviced by a volunteer Fire Department.

The Small Department Should Be Efficient

There is, in conclusion—overlooking the entire fire-fighting field as a whole—no reason why the small volunteer Fire Department should not be as efficient—in its own province—as that of the metropolitan organization of paid men. It is largely a matter of enthusiasm and love of the service working toward efficiency; of keeping eternally at it until perfection is attained. But don't ever forget that perfection cannot be even aimed at, let alone attained, unless the whole heart is in the effort to attain it.

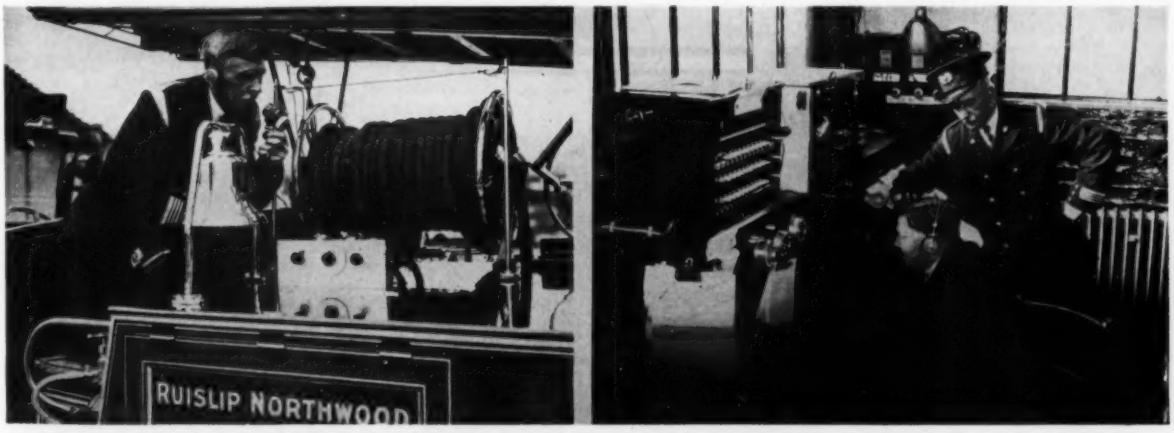
(Paper read before the October, 1934, meeting of the Fairfield County Fire Chiefs Emergency Plan; by request before the November, 1934, meeting of the Fire Chiefs' Emergency Plan of Westchester County, N. Y., and also by request before the April, 1935, meeting of the Mid-Hudson-Harlem Fire Chiefs' Association.)

Chief Welch of Columbus Injured

Chief Edward Welch, of the Columbus, Ohio, Fire Department, was removed unconscious to a local hospital when a live wire, broken by an aerial ladder, fell in a pool of water in which the Chief was standing.

The accident occurred at a three-alarm fire which razed an 83-year old church. Fire was caused by workmen who were using a blow torch to repair copper drain pipes on the roof. Twenty pieces of apparatus responded.

LARRY D. DONOVAN.



Two-Way Radio Communication Provided for Fire Brigade of Northwood, England

A short wave radio set of five meters has been installed for the use of the Fire Brigade of Northwood (Middlesex), England, so that officers may be in communication with fire headquarters even while working at a fire. The territory served by this brigade consists of twenty square miles of rural country, and without radio communication, it would often be difficult to carry on a telephone conversation with headquarters. The photograph at the left shows Captain Beckett, Chief of the Northwood Brigade, carrying out tests on the fire apparatus on which the radio set is mounted. The aerial may be seen strung beneath the ladder. At the right is the apparatus installed at the Northwood fire station.

THE ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

PREVENTING THE BLOCKADE OF FIRE APPARATUS

FIRE apparatus is always looked upon by the public as the symbol of thrills and excitement. To those who go about in well regulated channels, day by day, it represents an expression for a vicarious life. When apparatus goes rushing by, there is a longing to follow it, so that the excitement of the fireman's life and the thrill of his work, may be shared by others.

The general desire to watch the fireman at his work, draws a large number of cars to the fire grounds and blocks the approach of department apparatus.

The problem in full that is discussed in this issue appears in the box on this page. It is a continuation of the discussion which appears in the May issue. In the box on the following page is the problem that will appear in the next issue. Should you have some comments that you would like to add to the next discussion, you are invited to write to the "Round Table Editor," FIRE ENGINEERING, 24 W. 40th Street, New York, N. Y.

Discussion of the Question

J. L. McLane, Chief, Charleston, W. Va.: The police handle the situation very satisfactorily in the congested district, but we have trouble in the outlying districts, due to the scarcity of officers.

The police do not respond with the apparatus but the officer nearest the fire responds. I think this problem should be worked out with the cooperation of the Fire Department.

Emil A. Johnson, Chief, Boulder, Col.: On April 16, 1935, the following ordinance was approved in our city:

"That it shall be unlawful for the operator of any vehicle other than one on official business to follow closer than 300 feet any fire apparatus traveling in response to a fire alarm, or to drive into or stop any vehicles within 300 feet of where fire apparatus has stopped in answer to a fire alarm."

Police respond to all fire alarms, and assisted by the ordinance, the police have something to work with. We have had a lot of trouble with automobiles following the fire apparatus. Being a college town it seems to be natural for the students to follow the apparatus.

Walter Blanton, Chief, Savannah, Ga.: Motorcycle officers respond to fire alarms, stop several blocks from scene of fires and direct motorists away. Arrests are made of violators, and the recorder dismisses the case with a warning. Cooperation of Police Department will eliminate the evil to a very great extent.

Wm. J. Lutz, Chief, Wilmington, Delaware: We have laws in our city providing that it is unlawful for vehicles other than those on official business to follow fire apparatus responding to an alarm closer than 500 feet. It is also unlawful to park within the block where the fire apparatus has stopped to answer a fire alarm. It further provides that no railroad car, street car or vehicle should drive over unprotected hose when laid at a fire, without first obtaining the permission of the Fire Department official in charge.

Police cars answer the radio call sent out from Central and perform such duties as may be required of them, such as keeping the public at a safe distance so as to permit the firemen's activities to be carried on without interference, as well as to protect fire hose lines and direct traffic. We have very fine cooperation from the Police Department.

To eliminate the evil of motorists converging to a fire area, proper laws and ordinances should be passed and enforced.

F. M. Kuhn, Chief, Pontiac, Mich.: We depend entirely upon the police to handle the traffic situation at fires and have had fairly good results. I believe it is the job of the police and it is entirely up to them. Firemen generally have plenty of work to do in the extinguishment of the fire and cannot bother with traffic.

Lloyd E. Gramley, Chief, Aurora, Ill.: Following fire apparatus traveling in response to a fire alarm is prohibited and is included in the traffic ordinance of this city. It points out that the operator of any vehicle other than one on official business is not to follow closer than 500 feet. It also provides that no car should drive into or stop within the block where fire apparatus has stopped in response to a fire alarm.

About seventy-five per cent of the time officers respond with the apparatus to a fire. This has a beneficial effect, as one or two arrests seem to have achieved the necessary results.

The best results, however, are gained through an educational program, in the daily papers, the same fire prevention program is conducted. The traffic ordinance should be kept before the public.

J. H. Harrison, Chief, Brunswick, Ga.: We have policemen at practically all fire calls. We usually have quite a congregation at fires but we handle it very nicely.

J. F. Healy, Chief, Denver, Colo.: The location of a fire is radioed to all police cars, the instant the alarm comes in, and cars are dispatched to block off all traffic for at least one block in each direction. Diverting traffic promptly, avoids congestion.

All fires or alarms are answered both by traffic officers on radio equipped motorcycles. People speeding, while following fire apparatus, are arrested.

Traffic violation tickets are given to those who speed and all cars driven over fire hose are fined without exception.

Edw. J. Sawtell, Chief, Hamtramck, Mich.: A police patrol and two or three policemen answer every fire alarm received. For any ordinary fire, these two or three men are sufficient to control the crowd so that it does not interfere with our work. When a conflagration is of such extent, and the crowds are so big as to require more men to handle the situation, we immediately send in a call for police reserves. Our community, although it has a population of 60,000. has an area of only 1.92 square miles so that either the Police or Fire De-

HERE IS THE PROBLEM

What means have you established to prevent motorists from converging to a fire area, and thereby blocking the approach of fire apparatus?

Do policemen respond with the apparatus to arrest offenders, and if so, what has been the result?

Have you any suggestions for eliminating the evil?

partment can reach any given location within city limits inside of two or three minutes.

Any person interfering with the work of the Fire Department at a fire is arrested and taken to the police station, although as a general rule, charges are not pressed against them, unless such person repeats the offense. The usual procedure is to give these persons a strong lecture on the possible consequences of their act, and a warning that any repetition will bring a jail sentence. This method has been so successful that we have never had a repeating offender.

In facilitating our work at fires, we rely mostly on our educational campaign in teaching people how they can help us most at a fire. We send out speakers to meetings of all civic organizations, to the public and parochial schools, and to business and social club meetings. These speakers explain our work to the audience. They tell them about the problems we are obliged to cope with, and they instruct the audience in proper methods of fire prevention. At the same time they tell the audience that where there is a fire, they can aid us, and help themselves most, by staying out of the fire area, so allowing the Fire Department to do its work promptly and efficiently. In these talks, we use statistics to show how many people have been killed or injured through congregating in fire areas and we strongly harp on the possibly of injury to children and of accidental injury to adults from falling electrical wires.

J. N. Cochran, Chief, Council Bluffs, Iowa: The police in our city respond to every fire alarm with a squad car, two policemen, and one motorcycle cop. They watch all traffic going to the fire and keep the streets open. The results have been very satisfactory as we have very little trouble with motorists in our city. Our fire trucks are all equipped with a loud siren which clears the streets of traffic.

Von E. Gerry, Chief, Sanford, Me.: Have made two arrests and they were found guilty in the Municipal Court. The appeal was taken to Superior Court and the case never appeared. It appears to me that it is just a waste of my time.

Police appear at the fire sooner or later, but only to prevent traffic from running over hose lines and getting too near the fire and apparatus. They do not appear with the apparatus.

Better and more enforceable laws and cooperation of the Courts and County attorneys. This town does not have a solicitor for the towns legal matters so that I have nobody to call on for information without expense to the department.

Frank M. Davis, Chief, Danville, Ill.: Danville is one of the smallest cities to have a radio system for their Fire and Police Departments. It has proved its worth several times in the two months it has been in operation. All alarms are radioed to police cars and to my car. Several times the police have been at the fire when I arrived and they were directing traffic so motorists were prevented from blocking fire trucks and driving over the hose.

I recommend that all Chiefs start at once to have the 10-mile short wave radio installed in their city, as besides giving the Chief more liberty to leave the Central Station and having police service at fires, I have the names of all firemen in the radio room. In case I need the off duty platoon, the police cars are radioed the firemen's addresses in their district and they pick them up.

W. P. Cooper, Chief, Richmond, Cal.: The City Council enacted an ordinance making it a misdemeanor "to follow any piece of fire apparatus responding to an alarm of fire or to park any motor vehicle within one block of any area in which a fire is in progress and while the Fire Department are working on same."

Police auto patrol cars are detailed by radio on all alarms and patrolmen in that immediate district respond and take care of all violators, with the result that we are very seldom bothered with traffic congestion at the fire.

I would suggest the enactment of a similar ordinance to be followed by a very stringent drive against all violators. Offenders should be taken into police court and sentenced to pay a nominal fine, followed by a great deal of publicity in the local newspapers. With the wholehearted support of the police court and Police Department, I am of the opinion that the problem can be solved.

J. L. McDowell, Chief, Shelby, N. C.: We appeal to the public through notices published in our local paper asking for their cooperation in this matter. We also station a fireman about one block from the fire in each direction to see that all traffic is stopped.

The Police Department cooperate with us and arrives at the fire as soon as possible, relieving the firemen who have been assigned to handle traffic.

It is my personal opinion that better results along this line are obtained in towns of this size by asking the public to cooperate with the local Fire Department through notices in the local newspapers explaining to them the danger of following too close to the fire equipment and pointing out to them that they are hindering the firemen in the performance of their duties. We do not arrest offenders except as a last resort.

George B. Goff, Chief, Oklahoma City, Okla.: The police scout cards, are on duty twenty-four hours a day. These cars are radio equipped, and are dispatched to the fire area at once. Lieutenant or Captain of the scout cars are also on duty at the fires. This means of diverting traffic from the scene of the fire has brought excellent results. It is my understanding that Denver has a law that all autos are tagged in the fire area.

J. F. Zellers, Chief, Wilmington, N. C.: The Police Department details officers to respond to each alarm. They prevent the motorists from congesting the fire area. They also prevent the people from hindering the fire companies while extinguishing fires.

The results have been favorable, as we have received splendid cooperation from the Police Department and the public.

Chris Smith, Chief, Muskegon, Mich.: We have a regular traffic ordinance which gives all fire apparatus the right of way to and from fires. Whenever officers or men of the Fire Department are on duty at a fire no vehicle is permitted to be parked or allowed to remain within one block of the scene of the fire.

A great many auto drivers do not abide by this ruling and a number of times we have had quite a lot of trouble. Police squad cars answer every fire alarm and they help us very much whenever they can.

The only suggestion I have is to arrest every driver and fine them for violating the traffic ordinance. In this way the trouble would soon be over.

George E. Barber, Chief, Ludington, Mich.: We have established a city ordinance prohibiting cars from parking in the block of the fire also prohibiting cars from passing fire trucks on the way to a fire.

We have two policemen in our Fire Department and they answer all fire alarms. It is their duty to see that the above mentioned ordinance is enforced.

I would suggest authorizing some one of the apparatus to arrest violators, presenting those arrested with cards requesting them to report at police station at some given time.

Reuben E. Estes, Chief, Lewiston, Me.: Our alarm system is arranged for "fast time" and "slow time." The apparatus responds immediately on the first "fast time" alarm and are on their way before the "slow time" is sent out by our alarm dispatcher at central station. The Police Department has a "fast time" tapper and the men respond immediately. When the police arrive at the fire area, they immediately take steps to divert all traffic from it. If necessary the fire area is roped off and policed by the policemen on duty. The Police Department cooperate 100% with our department. When we installed our "fast time-slow time" transmitter we elimi-

HERE IS THE PROBLEM FOR THE NEXT ISSUE

A proposal has been made that cities be rated for fire insurance purposes according to their actual experiences with fires, such as fire losses, methods, etc., rather than the physical qualities of fire-fighting defenses as used at present by rating bureaus.

What are your ideas on the subject?

Which plan do you favor and why?

nated to a great percentage the evil of motorists driving to a fire and blocking the approach of our apparatus.

H. P. Sager, Chief, Muskogee, Okla.: We are having trouble with motorists covering up on us at fires, as are a great many other cities. The police have cooperated to the best of their ability in the past and will even be in a better position to aid us in the future, as we are now putting in a police and fire radio system and I think this will materially help matters.

Albert Luedeke, Chief, Freeport, Ill.: Our police chief has given his motorcycle policemen orders to keep all motorists a good distance from fires, if not give them a tag and send them to police station where they receive a good "tongue lashing."

Motorcycle policemen respond to all fires and give us the right of way and protection. My suggestion is to turn the hose on them if they get too close and to treat them roughly.

George Boughner, Chief, Grand Rapids, Mich.: We have an ordinance prohibiting motorists within 500 feet of apparatus stationed at a fire. The police answer all alarms. They are stationed at corners to prevent calls pulling in. They also order all cars out of restricted zones. We have been fortunate in having no trouble along this line. We believed our method is excellent and to further prevent interference from the public it is a good policy to rope off busy streets until after the fire is out.

A. N. Hofstetter, Chief, Evanston, Ill.: A police ambulance goes to all fires. A policeman is stationed at both corners to prevent traffic from going into the fire zone. All violators are arrested.

C. Craig, Chief, Owosso, Mich.: Our Police Department responds with our apparatus and it has rendered very satisfactory service in preventing the public from hindering Fire Department apparatus from reaching the scene of the fire. The police have assisted in keeping bystanders from entering the fire area.

Charles Andrews, Chief, Ann Arbor, Mich.: The police go to every fire and help us in every way possible. They try and keep autos out of blocks in which fire occurs and arrest anyone for interfering or found running over hose. We cooperate very closely with our Police Department. Of course a good many autos follow us to fires but we have not been able to find a solution for this annoyance.

F. Schaller, Chief, Port Huron, Mich.: Our city ordinance prohibits motorists from following or blocking fire apparatus within 500 feet. Our policemen respond with apparatus and arrest offenders to the above mentioned ordinance. We have had very good results with this method.

C. E. Underwood, Chief, Manistique, Mich.: Following motor apparatus, and parking in or near the fire area is regulated by our city ordinance. Fire apparatus also have right of way under this ordinance. Police are always around during the fire. Street police regulations and rigid enforcement of same would eliminate the evil of motorists' interference going to and at fires.

J. F. Van Atta, Chief, Kalamazoo, Mich.: Our city ordinances reads as follows: "It shall be unlawful for any person to drive any automobile or other vehicle within 500 feet of any building which is on fire, or in which fire is being fought by the Fire Department."

The police respond to fires and arrest offenders for the above and also for running over the fire hose.

I would suggest that publicity stating the dangers of such practices and pointing out to the public that cooperation would aid the Fire Department materially would help to overcome this trouble.

George D. Polenske, Chief, Lodi, Cal.: We have put notices in the papers and asked the public to stop following fire apparatus to fires.

Our policemen respond with the apparatus and of course arrest a few but we have not enough policemen to get them all. I have given our Fire Marshal orders that upon arriving at the fire he shall rope off all streets within four hundred feet of the fire truck and arrest all those not having a good excuse for being there.

C. Edward Willert, Chief, Mt. Clements, Mich.: We have no regular established means to prevent people or motorists from a fire area outside of police protection. The Police Department has a fire gong at their headquarters and a scout car is dispatched to answer all fire calls. With their cooperation, the situation is handled very well.

Henry Deitrich, Chief, Durango, Col.: Police respond to alarms to take care of traffic and a number of arrests have been made for driving over hose. However this being a small town, we are not bothered with this annoyance very much.

Our ordinance requires parking one block from the fire, and one block distance following apparatus. Our traffic is not congested, so it does not make any material difference. Of course in cities it would be another story.

Wm. Foster, Chief, Boise, Idaho: The Police Department in our city gets the fire alarm the same as we do and it is their duty to see that the public does not block the traffic or hinder the department in responding to an alarm. There have been a number of arrests made and a great deal of publicity given through the press. We have not had any trouble from this source for the last two years and this is due to the proper cooperation with the Police Department.

R. E. Mottesheard, Chief, Dearborn, Mich.: The converging of motorists to a fire area has not presented a difficult problem in our city due to the fact that our streets are practically all paved. Residential streets are fifty and sixty feet wide and streets in the business area are from eighty to one hundred and twenty feet wide.

Police officers answer all alarms. Scout cars are dispatched by radio patrols. Motorcycle and emergency wagons are dispatched through the police switchboard operator as the nature of the alarm warrants. Fire areas are roped off and guarded by police. Driving over hose lines or any interference by the public with the working of the Fire Department is satisfactorily handled by our Police Department through arrest and fine or jail sentence.

In my opinion ample police assistance with rigid enforcement of laws and ordinances regulating right of way of the Fire Department is necessary, as the public is curious and will follow if permitted.

* * *

ANSWERS TO PREVIOUS QUESTION

The following replies were received in answer to a previous question on the centralization of fire apparatus:

L. Hawcroft, Chief, Reno, Nev.: I do not believe in centralization of the Fire Department. If I were forced to economize I would prefer to have the same number of companies with less men, rather than close some stations.

In a great many instances the company in an outlying district has the fire under control before apparatus from a company located further away answers the same call.

A small number of well trained men at the start of a fire will do a great deal better work than a larger number after the fire has gained considerable headway.

G. L. Mathews, Chief, Pocatello, Idaho.: I believe that centralizing fire stations would be a very expensive experience, as we have had more difficulty each year getting through the streets. It is the first few minutes at a fire that saves money. Our city is about three miles in length and about two miles wide, with a railroad through the length of it. We have two subways of about three hundred feet in length and one crossing at the extreme end. We have but two stations here now. In my opinion it would be using extremely poor judgment to remove one of them.

Elmer Keith, Chief, Corsicana, Tex.: For volunteer department I should think a town would need only one station, unless there are paid men at outlying stations. In most cases where there are volunteer departments the towns are small and the central station is centralized is satisfactory.

New Haven Annex Marks Anniversary

The fortieth anniversary of the Annex Fire Department, of New Haven, Conn., was observed with fitting ceremonies, including a banquet which was attended by many Connecticut fire officials and their friends. The Committee of Arrangements was headed by Chief John S. Pachl, of the Annex Fire Department, President of the New England Association of Fire Chiefs; Ex-Chief H. H. Griswold, W. A. Bristol, and H. G. Griswold. The Annex Fire Department was organized on April 30, 1895, and Chief Pachl has been head of the organization since 1922.

HARRY BELKNAP.

Fire Fan Presents Ambulance to Urbana

A completely equipped ambulance was presented to the Fire Department of Urbana, Ill., by Robert M. Humphreys, fire fan, in memory of his early connections with the department as mascot and then as assistant to the men at fires.

Robert M. Humphreys

The ambulance is provided with three stretchers, grappling hooks, rubber and asbestos gloves, torches, and first aid medical equipment.

The ambulance answers calls within a five-mile radius of Urbana. Two doctors are assigned each month, and they rotate at intervals. The ambulance is the newest equipment in the community of 7,500 persons. The department has a 750-gallon pumper, one 600-gallon pumper, a chemical hose wagon, and a 75-foot aerial ladder.

LARRY D. DONOVAN.

Melrose Threatened

The business center of Melrose, Mass., was threatened with destruction by fire on the afternoon of May 18 when a fierce blaze destroyed the Benson Coal Yard adjoining the Boston and Maine Railway Tracks. Chief Frank C. Newman called aid from Medford, Malden, Stoneham, Wakefield, and Saugus. Three frame buildings in the coal yard, a wooden trestle, coal car, and a shed of the Deering Lumber Company were burned. The roofs of several dwellings were ignited by flying embers.

HARRY BELKNAP.

Columbus, Ohio, Has Three-Alarm Fire

Eleven firemen were injured while fighting a three-alarm fire which broke out in a two-story building at Columbus, Ohio, which housed bowling alleys and billiard tables.

Chief Edward P. Welch

The first alarm was sounded at 5:54 a.m., and brought three engine companies, two truck companies and a squad car. The second alarm at 5:58 a.m., brought four engine companies and a truck company. Flames spread to the tar paper roof supported on wooden beams. A third-alarm at 6:03 a.m. brought four engine companies, one truck company, one squad car and an ambulance. An 85-foot aerial, put in service the day before, was called into use and resulted in injury to a fireman.

The ladder was extended from the truck and the fireman was burned when an explosion occurred and showered him with lacquer. He held on to the ladder, descended to the ground, and was treated by police physicians.

The building was constructed of brick, two stories high. The alleys were on the second floor, a garage and an electrical store on the first floor.

Chief Edward P. Welch estimated the loss at $81,000, although first estimates placed it as high as $221,000.

LARRY F. DONOVAN.

E. Harry Impson, fire equipment salesman traveling in the eastern states, who was seriously ill for some time in the Arnot Ogden Hospital at Elmira, N. Y., is now recovering.

Laws Affecting New York Volunteers

Changes in laws affecting volunteer firemen of New York state, made by the legislature of 1935, will be issued as a supplement to the Book of Fire Laws by the Firemen's Association of the State of New York. This supplement is intended to be released about July 1. Copies may be obtained by writing to the Treasurer, William H. Swartwout, 154 Lawrence Street, Brooklyn, N. Y.

Waterfront Fire Causes One Death

A river boat and two warehouses were involved in an early morning waterfront fire at Jacksonville, Fla., which took one life and caused a property loss of $30,000. The dead man was captain of the river freighter Navaho, and was asleep in the cabin of the boat. Fire started in a room near the generator and burned forward.

Firemen at first found it difficult to reach the flames. The boat was loaded with flour, rosin and turpentine. The warehouse of the Southern Railway which burned, was stocked with canned goods, feeds, fertilizers and other products.

Four alarms were sounded. Deputy Chief George E. Hare was in charge of the companies, as Chief W. Q. Dowling was attending a convention of the state firemen at Augustine. Those owning property which was damaged were high in their praise of the Fire Department for preventing the blaze from spreading.

D. G. AID.

Fighting the 4-Alarm Waterfront Fire

N. F. P. A. Reports Lower Losses

A reduction of $41,000,000 in the total fire losses for the United States in 1934, was reported at the annual meeting of the National Fire Protection Association held at Atlanta, Ga., May 13-17. The 1934 total is $276,000,000. More than eight hundred persons attended.

Dr. David J. Price of the United States Department of Agriculture, said that the use of inert gases such as carbon dioxide or nitrogen offered possibilities as a fire prevention measure, but that considerable research was required along that line. He touched on the dust explosion hazards in the south. Reports were presented on fire hazards in the various industries.

All the officers of the association were re-elected. The officers are Harold L. Miner, Wilmington, President; George W. Elliott, Philadelphia, First Vice-President; C. H. Haupt, Elizabeth, N. J., Second Vice-President; Franklin H. Wentworth, Boston, Secretary-Treasurer and Managing Director; Albert T. Bell, Atlantic City, Chairman of the Board of Directors.

Pleasantville, N. Y., has purchased a Maxim combination booster and emergency rescue car from the Woodhouse Manufacturing Company, New York City. Besides a booster pump, it will be equipped with emergency and first aid appliances.

Questions and Answers

NOTE—Readers are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified

Liability for Fire Damage

To the Editor:

I am trying to locate some court decisions on suits involving the city as the defendant and a property owner as the plaintiff. We had a fire in a five-room frame dwelling. Fire had broken out through the shingle-roof over one room when the first company arrived. A 2½-inch line was placed from the hydrant about 100 feet distant. This line was siamesed into two 1½-inch leader lines. The hydrant was found dry, and the 2½-inch line was connected to another line 300 feet distant.

During the time the hose was being connected, two one-inch booster lines were holding the fire. Due to this delay (which has been times as three minutes and forty-five seconds) the property owner is suing the Fire Department for negligence. The plaintiff did not carry any insurance on the building or contents.

A. C. D.

Answer: This question was submitted to Leo T. Parker, attorney-at-law, for his opinion. He wrote as follows:

"As a general rule a municipality is not liable for its failure to supply water with which to extinguish fires.

"In other words, neither a municipality nor a water company is an insurer that consumers shall be furnished with water supply adequate to meet the demands and requirements of consumers at all times.

"One of the latest higher Court cases on this subject is Atlas Finishing Co. vs. Hackensack Water Co., 163 Atl. 20, in which it was shown that a state law provides:

" 'Nor shall any public utility as herein defined provide or maintain any service that is unsafe, improper or inadequate.'

"If, however, the failure to supply pressure is because the city is using the water or pumping equipment as rental or other source of profit, then the city may be liable. Of course, a valid state law may provide that the city would be liable.

"One day a fire started in a factory which was supplied with efficient hose and other fire fighting equipment. However, the pressure of the water was insufficient to enable the factory employees to extinguish the fire with the result that the buildings were totalling destroyed with other valuable property stored therein.

"The owner of the factory filed suit against the water company to recover damages alleging that it was the implied duty of a private water company engaged in furnishing water for industrial and domestic purposes to supply water at sufficient pressure to enable users to effectively utilize the water for fire protection. After considering all phases of the law the higher Court held the water company liable, and said:

" 'No one person had a right superior to another to demand that he should be supplied, and the legal duty is imposed upon the company to furnish it equally to the extent that its system was capable of doing it.'

"Also in the late case of Peoples vs. South Carolina Power Co., 164 S. E. 605, it was shown that a water company and a city entered into a contract by the terms of which the water company agreed to supply water to the citizens of the municipality at a specified rate. A clause in the contract provided that the water company agreed to supply water for the purpose of extinguishing fires, but it was not clearly stipulated that the water company would be liable for its failure to do so.

One day a building caught fire and the municipal firemen were unable to extinguish the conflagration for the reason that the water company had failed to have sufficient steam in the boiler to furnish sufficient water pressure. The Court held the property owner not entitled to recover. And in Mahe vs. City of Winston-Salem, 130 S. E. 169, the owner of property brought suit against a city to recover damages for the alleged negligence of the latter's employees in permitting curbstones and rocks to collect around a fire plug or hydrant, for a period of about six or eight months, thus preventing the flow of water resulting in destruction of his house by fire. The Court refused to hold the city liable."

Small Line Calculations

To the Editor:

Would you kindly solve the following problem?

A booster pump is pumping through 200 feet of 1½-inch rubber lined hose, to which is attached a Y with two 100 foot lengths of ¾-inch chemical hose with ⅜ tips. What is the friction loss, the pressure at the tips, and the discharge in g.p.m.? The pressure at the pump is 100 lbs.

C. R. P.

Answer: In brief, the method of solving the problem is to first reduce the entire layout of 1½-inch and ¾-inch hose to a single line of 2½-inch hose; combine the two nozzles into one nozzle of equal size, and then solve for the nozzle pressure. The pressure so found will be the pressure at each of the ⅜-inch nozzles. Discharge from each nozzle or from the combined nozzle may be found by the following formula:

Discharge $= 30 \times d \times d \times \sqrt{p}$.

The factor for changing 1½-inch hose to 2½-inch is 0.074.

The factor for changing ¾-inch hose to 2½-inch hose is 0.0029.

To combine the two ⅜-inch nozzles into a single nozzle, square each of the nozzles, add the squares and abstract the square root of the sum. This is done as follows:

For the first nozzle, $⅜ \times ⅜ = 9/64$.

For the 2nd nozzle, $⅜ \times ⅜ = 9/64$.

Add these two together, and we get 18/64, which reduces down to 9/32.

The square root of 9/32 is 3/5.66 or 0.53 inches, which is the diameter of the combined nozzle.

Reducing the hose layout to a single line of 2½-inch hose, we proceed as follows:

200 ÷ .074 = 2,700 feet of 2½-inch hose, which is the equivalent of the 200 feet of 1½-inch hose.

100 ÷ .0029 = 34,500 feet of 2½-inch hose, which is the equivalent of the 100 feet of ¾-inch hose. Each of the ¾-inch lines is equivalent to the same, each being 100 feet long.

Then we combine the two 2½-inch branch lines so found by dividing 34,500 ÷ 3.6, giving us 9,580 feet of 2½-inch hose, the equivalent of the two 100 foot lines of ¾-inch hose combined.

Hence we have a new layout representing a single line of 2½-inch hose with a length of 2,700 + 9,580 or 12,280 feet long. This line is equipped with a nozzle of .53-inch diameter and the engine pressure 100 pounds.

Now solve for nozzle pressure:

N.P. = E.P. ÷ (1.1 + K L).

K for 2½-inch hose and .53-inch nozzle is found by multiplying .53 by itself three times and dividing by 10, or .53 x .53 x .53 x .53 ÷ 10, giving us 0.0079.

L, the number of 50 foot lengths of 2½-inch hose in the line is 12,280 ÷ 50 or 245.6.

N.P. = 100 ÷ (1.1 + .0079 x 245.6)
= 100 ÷ (1.1 + 1.94)
= 100 ÷ 3.04 = 32.9 pounds nozzle pressure.

Discharge $= 30 \times d \times d \times \sqrt{p}$, where d is the nozzle

diameter in inches and p, the nozzle pressure in pounds per square inch.

Discharge = 30 x .53 x .53 x $\sqrt{32.9}$
= 48.5 gallons per minute approximately for the combined nozzle, or 24.25 gallons per minute for each of the two 13/16-inch tips.

The friction loss between the engine and the combined nozzle, or the engine and either of the 13/16-inch nozzles, is equal to 100—32.9 or 67.1 pounds.

Van Atta Chief of Kalamazoo

J. Frank Van Atta, was appointed Chief of the Fire Department at Kalamazoo, Mich., on April 1.

J. Frank Van Atta

He was born in Albion, Mich, and went to Kalamazoo in 1908. He joined the department on May, 1912, as a driver of a hose wagon and was later transferred to the Central Station. Van Atta was later promoted to Lieutenant and Drillmaster. He was promoted to Captain in 1924, and after the death of the late Chief Russell, October 19, 1934, he was appointed Assistant Chief.

Oklahoma Firemen to Meet

A joint meeting of the Oklahoma State Firemen's Association and the Southwestern Association of Fire Chiefs will be at Oklahoma City, June 17-19.

The list of speakers will include L. K. Covelle, State Superintendent, Industrial Education, A. & M. College; Chief M. J. Brun, Fort Smith, Ark.; H. J. Clark, Chief Engineer, Oklahoma Inspection Bureau; Chief George B. Goff, Oklahoma City.

Besides these two associations, there will also be meetings of the Oklahoma Fire Chiefs' Club.

School to Be Held at Lyndhurst, Ohio

Sponsored by the Lake Erie Fire Chiefs' Association, a Regional Fire School will be held at Lyndhurst Park, Lyndhurst, Ohio, July 12-13. The Committee of Arrangements consists of Chief J. A. Falkner, South Euclid, Ohio, Chairman; Chief Carl Oltmanns, Lyndhurst; Chief Clarence Anderson, Rocky River.

Stockyard Fire Nearly Repeated

Almost to the minute which marked the anniversary of the Chicago Stockyards fire of May 19, 1934, a 2-alarm fire within a quarter mile of the starting point of the $8,000,000 conflagration caused damage of $5,000 and overcame five firemen before the stubborn blaze was subdued.

Captain David Hackett of Engine 52 and four pipemen of his command were overcome by fumes from burning leather in a shoe store at 4713 South Ashland Avenue Situated between two large frame buildings, firemen struggled desperately to prevent the spread of the flames.

Captain Hackett staggered to the street and collapsed at the feet of Michael Corrigan, Chief Fire Marshal, who, because of the proximity of the stockyards, had responded on the second alarm. Captain Canaven, of Squad 3, led his men into the basement effecting the rescue of the other members of Engine 52. The five were first given oxygen as an emergency measure and then removed to hospitals.

Nine pumpers, four trucks, two squads two high-pressure wagons, a water tower, three insurance patrols, three Battalion Chiefs, a Division Marshal and Chief Corrigan fought the fire nearly two hours before the fire was "struck out" over the fire department telegraph system.

ROBERT GREENOCK.

INTERESTING PROGRAM FOR NEW ENGLAND CONVENTION

Fire Chiefs' Association Issues Program for Annual Meeting to Be Held in New Bedford, Mass., June 25 to 27

By Harry Belknap

MEN of national importance in the fire-fighting field are to address the thirteenth annual convention of the New England Association of Fire Chiefs, according to the program. The headquarters hotel is the New Bedford. The exhibits are to be held at the New Bedford State Armory, and all of the meetings except the opening session are also to be held at the Armory. For the opening session the members will assemble in the Post Office Square and march to the Clarence A. Cook School, where the ceremonies will take place. A Clam Bake and Shore Dinner are to be features on Thursday. The program is as follows:

Tuesday, June 25

10 A.M.:

Assemble in Post Office Square, New Bedford, and march to the Clarence A Cook School led by the New Bedford High School Band.

Opening of the Convention by President John S. Pachl, Chief of the Annex Fire Department, New Haven, Conn.

Invocation by the Rev. John F. McKeon, rector of St. Lawrence's Church, New Bedford.

Addresses of Welcome by Mayor Charles S. Ashley and Chief Edward F. Dahill, of the New Bedford Fire Department. Response in behalf of the association by Chief George L. Johnson, of Waltham.

Annual Memorial Service.

Reading of the Roll of Deceased Members of the Past Year by Chief John W. O'Hearn, of Watertown, Secretary.

Memorial Address by Rev. William B. Geoghegan.

2 P.M.:

Session for Forest Fire Wardens—Program Arranged by Maxwell C. Hutchins, Massachusetts State Fire Warden, and John P. Crowe, Assistant Warden.

7:30 P.M.:

Address by Rev. John Nicol Mark "Scotch Wit and a Little Philosophy." Illustrated Lecture "The Romance of News Gathering" by Alton Hall Blackington.

Wednesday, June 26

9 A.M.:

Report of Progress of Firemen's Training Schools.

Address by Robert O. Small, Director of the Division of Vocational Training of the Massachusetts Department of Education.

Address by M. Norcross Stratton, Supervisor of the Firemen's Training Classes.

Address by Ex-Assistant Chief Thomas F. Dougherty, of the New York Fire Department, on "The Advantages of a Fire College For Officers."

Address by Chief John J. Towey, of Newark, N. J., President of the International Association of Fire Chiefs, on "The Proper Handling of Hose Streams Under Various Conditions."

Address by Chief Irving C. Hammond, of Westport, Mass., on "Small Town Fires and Their Attendant Problems."

2 P.M.:

Conference Session of Department Drill Masters.

Demonstration of Flammable Materials by Members of the Providence, R. I., Fire Department, which, under direction of Chief Frank Charlesworth, was awarded first prize in the Fire Prevention Contest of the National Fire Waste Council.

Thursday, June 27—Clam Bake and Shore Dinner

Address by Chief William C. Mahoney, of Peabody, Mass., on "Progress of the Association Journal."

Reports of Committees. Unfinished Business. Election of Officers.

Adjournment.

The WATCH DESK

Our inquiring reporter overhauls the firematic news of the day

By Roi B. Woolley

Radio to Rescue

Summoned through radio message, firemen of Elizabethtown and Rheems (Pa.) saved farm buildings of Walter Herr, four miles from Elizabethtown. Fire started from overheated stove in a tobacco cellar, was noticed by air mail pilot, Joe Bartles, who radioed Harrisburg terminal 22 miles away. Airport officials telephoned firemen.

Don't Leave Babies Alone

Parents of eight-months old baby Henry Shippee left him as they supposed safe in his crib. Mrs. Shipee returned in short while later to find crib in flames, baby dying.

Girl Vol's Busy!

Twenty-seven Wellesley (Mass.) freshmen fled their dormitory when fire was discovered in Washington Hall, old Colonial mansion. Miss Betty Hill, college fire captain ordered girls to don coats and overshoes, led them into freezing air. Damage slight.

More "Sun Shines"

Reading our story of the gold-fish globe foccussing sun's rays, which started fire, a friend from Columbia (Mo.) sends this one: During a last year's heat wave, the sun, focussed on a window shade, through concave glass dish, set the shade afire, did $100 damage before being extinguished. Who's next with a sun story?

Haste Makes Delay

Michael Turkey, of Joliet (Ill.), became excited and lost his home. Wife awakened him early in morning. House afire, just north of city limits. Michael leaped out of bed, ran 16 blocks in nightgown to a fire station, passing seven alarm boxes en route. House burned down while he sprinted 1½ miles and before F.D. could respond.

Month's Tall Story

There have been many wild "excuses" for turning in false alarms, but that of Harold Clark, aged 25, Ozone Park, Queens (N. Y.), wins the prevaricator's medal. In court, to answer for snapping alarm April 10, claimed he did it "so that some one would hear of him and his unemployment and perhaps give him a job." Magistrate Jeanette G. Brill placed him on probation for six months.

Fire Engine Boy's Hearse

The deathbed wish of Franklin Starke, aged 19, was granted when his associates in Heidelberg (Pa.) Vol. F.D. buried him with impressive ceremonies. Dying in hospital after operation, young Starke told mother "I know I'm going to die, and I want the fire engine to be my hearse and my friends, the firemen, to accompany my body to the grave." His wishes were fulfilled, his fellow vols. marching beside and behind auto engine which was draped in black.

Do You Know?:

That the Governor of New York State signed a bill in April prohibiting the use of gongs and siren whistles on privately owned vehicles? . . . That the big drum used to mix the numbers in the world's greatest lotteries, in Plaza Hall, Dublin (Ireland), was destroyed when fire razed the structure last month? . . . That the only thing to escape the flames when fire destroyed the Methodist Episcopal Church of Elmsford (N. Y.), a Negro church, was a leather-bound Bible that had been resting on the altar? . . . Speaking of Bibles, an incendiary set fire to the Collegiate Reformed Church of St. Nicholas (N. Y. City), by using pages torn from a large Bible, converting them into torches to light five fires in the structure? . . . That in Woodlyn (N. J.), the borough fire marshal was authorized to inspect homes periodically to check possible fire hazards, the Council passing an ordinance permitting inspections and providing for assistants? . . . That in certain European Fire Departments, upon the sounding of an alarm, and before the "Brigades" respond, the men are lined up and inspected to see that their brass helmets, and other "bright-work" are nicely polished, uniforms clean? . . . That there's a small fortune awaiting the person who will perfect a device or appliance that will detect, identify or hold the person who turns in a false alarm? . . . That the Oregon State Capitol, Salem (Ore.), was destroyed by fire, loss $1,500,000, and "the State carried no insurance on the building?"

Aerial Spying Detects—Catches Arson Suspect

Plane detective work by pilot Albert Leo Wolf resulted in arrest of man charged with setting forest fire on Wurtsboro Mountain (N. Y.) Pilot Leo Wolf was patrolling Shawangunk Range when detected fire on Wurtsboro Mountain. Flew within 200 feet of summit, saw man standing back of fire, flew closer, got look at man, reported by radio to Pocatello Fire Tower near Middletown (N. Y.) State trooper arrested suspect, Lester Patterson. Others extinguished fire.

More Brief "Blast" Bulletins

Mrs. Anna Otto, aged 40 (Jersey City, N. J.) wife of owner of one of Jersey's largest bakeries, used naptha cleaning fluid in kitchen of her apartment above bakery. Blast severely burned her, did $10,000 damage to apartment and store.

Explosion in fireworks factory in Bombay (India) killed over 12 persons, including 6 children who were playing nearby.

In an Ankara (Turkey) movie house 11 persons were killed, 36 others injured when a picture "Rome in Flames" let go, creating fire that destroyed theatre.

In Helenwood (Tenn.) 7 persons injured, 75 made homeless when 250 kegs of blasting powder and 20 cases of dynamite exploded in center of small village. Explosives were stored in small mine supply house. Nearby residence took fire, touched off mine house. Explosion destroyed village. J. O. O'Connell railroad agent saved many by spreading alarm. Knoxville (Tenn) Red Cross sent aid.

In Chappaqua (N. Y.) explosion attributed to gas leak demolished home of Joseph Cambererie, broke windows in six other houses, hurled two dozen members of three families from beds and rocked quarters Independent Fire Company, where Charles Deedee and Albert Chulaski, vols., were playing final hand in pinochle tournament. Vols. worked two hours to kill resulting blaze.

Five persons, including a patrolman and a fireman injured in fire resulting from explosion in dry cleaning shop in five-story brownstone house (N. Y. City). Many thrilling rescues and escapes. Why do they permit dry-cleaning plants in residential buildings?

Accumulation of gas from coroded pipes in conduit of telephone and electric subway system (N. Y. City) blew two 200 lb. manhole covers skywards, burned two workmen seriously, awakened many guests in two big hotels, necessitated removing manhole covers for blocks to allow gases to escape. F. D. aided police and electrical crews to restore order.

WHAT DO YOU KNOW?

The Editor of "The Watch Desk" welcomes contributions from readers of Fire Engineering that briefly give facts about interesting, odd things that have to do with fires, fire-fighting, etc. Address "Editor, Watch Desk."

WHAT'S BURNING?

THE following list includes fires of $50,000 loss and over in the United States and Canada, for the month of May, 1935. These figures, compiled from the telegraphic reports are based on estimates made at the time, and are subject to later investigation and consequent revision. Taken as a whole, however, they are an approximately correct view of the losses incurred. The figures represent loss in thousands of dollars.

Month Ending May 31	Loss in Thousands of Dollars
Cortland, N. Y.—Plant of Bennett Hardware Co., destroyed	80
South End, Mass.—Warehouse property destroyed	50
Bernardsville, N. J.—Business property on Alcott Square	80
Cape Breton, N. S.—Nine dwellings destroyed, other damaged	80
Hyde Park, Mass.—River Street business property	50
Calais, Me.—Business block and church property	65
Hollywood, Cal.—First Baptist Church destroyed	80
So. Philadelphia, Pa.—Chemical plant of Merck & Co	65
Oswego, N. Y.—N. Y. Central coach repair shop	65
Fairmont, W. Va.—Barrackville mine of Bethlehem Mines Corp.	200
Dover-Foxcroft, Me.—Chandler block damaged	50
N. Grafton, Mass.—Factory of Atlas Yeast Corp., destroyed	80
Cleveland, Ohio—Store of Colonial Furniture Co., destroyed	100
Nazareth, Pa.—Factory of Nazareth Paper Box Co	65
Cleveland, Ohio—Dwelling of Geo. W. Morgan, at Hunting Valley	50
Pensacola, Fla.—Plant of Goulding Lumber Co., damaged	200
Fort Benton, Mont.—Northern Grain elevator and adj. property	50
Outremont, Que.—Residences on Edouard Charles Ave	50
Speculator, N. Y.—Lawlor's Hotel, Adirondack resort	65
Columbus, Ohio—Several business establishments	175
Camden, Me.—Whitmore Coal Co., and adj. property	65
Carmel, Cal.—Golden Bough Theatre destroyed	70
Melrose, Mass.—Benson Coal Co., Deoring Lumber Co., and others	50
Bridegport, Conn.—Whse. of Reliable Steel Barrel Co	50
Topeka, Kan.—Old high school building destroyed	65
Hoboken, N. J.—Factory of A. Marchiony & Co	180
Chatham, Va.—Plant of Chatham Mfg. & Lumber Co., destroyed	50
Lake City, S. C.—Whse. of Star Tobacco Co., destroyed	180
Newark, N. J.—Whse. occupied by Ringel & Bros., damaged	100
Cohoes, N. Y.—Two ice houses of Frank Margot, adj. property	50
Meadowmere, L. I., N. Y.—Thirty frame bungalows	65
Avonlea, Sask.—Four buildings destroyed	55
Salem, Ore.—Capitol building damaged	2,000
Saskatoon, Sask.—Plant of Lemeny-Denison Elec. Ltd	60
Des Moines, Iowa—Shop of White Line Transfer Co., damaged	400
Elberton, Ga.—Plant of Georgia Granite Corp., 4 mi. out	65
Grandview, Wash.—Whse. of Grandview Inland Fruit Co	55
Lewiston, Me.—Business and residential property	180
New York, N. Y.—Residence of Wm. H. Davis damaged	50
Georgetown, Ohio—High school building destroyed	50
Port Richmond, N. Y.—Harbell's drug store adj. property	50
Pullman, Wash.—Two grain elevators and adj. property	100
St. Pacome, Can.—Six business structures destroyed	50
Southbridge, Mass.—Weld and Beck grain bldg. destroyed	70
Columbus, Ohio—St. Patrick's Catholic Church destroyed	90
New Kensington, Pa.—Bldg. of State Construction Co	125
Glenville, Ga.—Plant of Glenville Ice Co., destroyed	50
Suffolk, Va.—Whse. property of Nansemond Truck Co	50

Russell J. Wilder has been appointed Chief of the Scituate, Mass., Fire Department to fill the vacancy caused by the death of Chief Archie W. Torrey.

Blast Wrecks Building in New York's "East Side"

A three-story brick building located in the famous "East Side" district of New York City, was wrecked by an explosion. Firemen fought desperately to keep fire from reaching four large gas tanks on an adjoining lot. The photograph was taken shortly after the blast.

New Chief In Larchmont, N. Y.

At a special election of the Fire Department of the village of Larchmont, N. Y., George S. Towle tendered his resignation as Chief of the department, of which he has been an active member for more than forty years, and of which he has served as Chief for over twenty years. His resignation from active duty was necessitated by ill health, but by a special action of the Board of Trustees of the village, his services will not be entirely lost to the department. He has been made Consulting Engineer in charge of Fire Prevention at an annual salary of approximately $1,700.

Chief John A. Petterson

The resignation of Chief Towle was followed by an election of chief officers, participated in by nearly 150 members of the department. First Deputy Chief John A. Petterson was elected Chief by a large majority over Charles W. Hagelston, who had been First Deputy last year. There were no contests for the positions of First and Second Deputies, the former Second Deputy, Osbourne G. Smith, being advanced to First Deputy, and former Third Deputy Roi B. Woolley being promoted to the Second Deputyship. The position of Third Deputy was taken by former Captain Frank Tierney, in a spirited contest with former Captain Edward I. Graff.

Chief Petterson has been a member of the Larchmont Department for many years; he has filled every officer's position of the Hook & Ladder Company, and was elected Third Deputy Chief in 1927. ROI B. WOOLLEY.

"Chevrolet Six" Car and Truck

The 1935 edition of the "Chevrolet Six Car and Truck," by Victor W. Pagé (Norman W. Henley Publishing Company, $2.50) has just been issued. It is written for the owners of this make of car who do their own repairing.

Suggestions are given for proper upkeep of the car, trouble shooting on the road and in the shop, power plant overhauling, locating defects in the carburetion, lubricating system, automatic heat control, etc. Even the mechanic in the shop, with the aid of this book, will have a better understanding of the Chevrolet design, and more assurance in making the repairs.

The book has chapters on the Chevrolet engine; fuel and carburetion system; engine lubrication system; engine cooling system parts and operation; starting, lighting and ignition systems; operating instructions for drivers; car lubrication and maintenance; instruction for owners and drivers; tools, shop practice and note for mechanics; engine top overhaul; engine major overhaul; overhauling clutch and transmission; overhauling rear axle and driving gears; overhauling and repairing front and rear brakes; front axle and steering system; details and information on models of previous years. N. N. W.

Chief Dowling 34 Years With Force

Chief W. Q. Dowling, of Jacksonville, Fla., celebrated his thirty-fourth anniversary with the department. From a rookie, he became foreman in 1905 and in 1919 was promoted to engine foreman. In 1920 he became Third Assistant Chief, Second Assistant Chief in 1926, First Assistant Chief in 1928, and on April 1, 1930, Deputy Chief. Three months later, when Chief H. R. McMillan retired due to illness, he became Chief.

Chief John H. Espey of Elmira, N. Y., observed his forty-eighth anniversary as a member of the department and his thirty-first anniversary as head of the fire service. He is a charter member of the New York State Fire Chiefs' Association, and held office in several fire chiefs' organizations.

BRINGING FIRE PREVENTION HOME TO THE CITIZEN AND BUSINESS MAN

Cooperation of Civic Associations with the Fire Chief Helps to Bring the Matter Before the Average Man More Forcibly

By Russell Frey

Secretary, Lakewood, Ohio, Chamber of Commerce

IN ancient and medieval history, living conditions contributed to the fires of great magnitude which in the dark ages wiped out entire cities. Superstitious people regarded fire as a punishment for a city's sins. People in their ignorance accepted fire as unavoidable or the working of fate. In recent years education has taught people that fire is preventable. They have come to regard fire, not with the romantic surge of excitement, but with resentment and shame for the ones upon whom it is visited.

Fire Is a Disgrace

In some cities to have a fire is a disgrace because it endangers the lives and property of neighbors. In parts of Europe any person having a fire due to their negligence is directly responsible for any loss to their neighbor's property. Our evolving social philosophy is beginning to place an increasing responsibility on the careless person whose negligence causes loss of property and comfort to his neighbors.

Give Service If You Expect Cooperation

A good axiom to remember is that public support for a Fire Department and cooperation with fire prevention activities varies directly with the service that is given. No better illustration of this is seen than when the late Chief Speddy wrote in 1928:

"Since the organization of our department we have endeavored to keep in mind that a Fire Department should be run on the same good business principles as any other business or organization. We have never seen any reason to cause us to change our opinion. The continued hue and cry of the average citizen is for efficiency and the nearer you come to satisfying their demands, the better support the fire department will receive. In other words, it is simply a question of selling the fire department to the citizens by giving them the best possible service. This can be accomplished by the intensive training of the members of the department, discipline and prompt efficient service to offset the general opinion that a fireman's job is a lazy one and that a department is made up of 'ne'er-do-wells' or men who are failures in the average walk of life, which, of course, is not true."

Simple Rules for Preventing Fires

The practice of quoting figures on fire losses per minute, and giving shuddering totals of the deaths and accidents in quick jumps of rhythmic sounding millions, may all be true but usually they are of such magnitude that nearly everyone gives up and says, "It is too bad. What can I do about it?"

An Ancient Car That Still Gives Service

Chief C. L. Downing, of Grand Junction, Col., is here shown beside his 1902 Cadillac, which is still in good running order.

A ready response from citizens has been responsible for perhaps 99 per cent of the effectiveness of the work. The long list of cooperating persons would include those connected with the city administration, the Fire Department, teachers in our public and parochial schools, industries, stores, churches, many clubs and organizations, fire insurance agents, fire insurance company representatives and the newspapers.

A few years ago we realized that we were trying to get results with the same old fire prevention stunts. Our program was going stale. We took some of the old standby promotions and dressed them up in new clothes. Then some new ideas were added. Each year this revising process takes place with all members of the fire prevention committee taking an active part.

Conduct Home Fire Drills

Our program called for more intensive education of adults through the children. Families were encouraged to conduct fire drills in their homes at least once every two or three months. General instructions were given on what each member of the family should do, if fire broke out in the home in the dead of night. A home fire drill is an effective means of creating fire consciousness among adults.

No fire prevention program can succeed without good educational work in the schools. In addition to the speakers before school assemblies during fire prevention week and fire drills each month, Lakewood teachers encourage children to write stories, poems, and even songs on fire prevention. Lessons on fire prevention given to children of school age are indelibly stamped in their minds and are carried through life.

While the public school curriculum was being revised, some enterprising teachers wrote fire prevention hints into various subjects, like arithmetic, English, etc., so that the child would become acquainted with the operation of the Fire Department and the prevention of fires. By this indirect method of teaching, the importance of fire prevention is being stressed continuously.

Popularized Home Inspections

Twice a year, during the spring Clean-Up Campaign and Fire Prevention Week, school children in the grades third to sixth inclusive, conduct an inspection of their homes and fill out reports for the Fire Chief. Experience of schools indicate most effective results are obtained in these grades. A phenomenal increase in the number of children making inspections was obtained by placing the schools, both public and parochial, on a competitive basis. The high percentage of 94.5 per cent of those students responding was reported as compared with 62 per cent in the previous year. A silver trophy was awarded to the school showing the best results. Four schools reported a 100 per cent return!

Special Inspections of Buildings

In addition to having a Town Inspection it is advantageous to follow it up with inspections by members of the fire prevention committee cooperating with the Fire Chief. A copy of each report was sent by Fire Chief Delaney to the responsible parties in charge of the individual properties. Far-reaching results have been accomplished. The only school building considered a serious fire trap and one which easily could have resulted in a large loss of life was abandoned for school purposes the very next year, as a result of the survey. It is our intention to further this special activity by personal inspection of industrial plants.

Inspect Mercantile Buildings

While firemen make monthly inspections of all mercantile buildings, our Fire Prevention Committee has found it advantageous to occasionally make inspections in congested districts. We are perhaps fortunate in having on our Fire Prevention Committee, men who are thoroughly experienced in fire inspection work and have no fear of public criticism or political pressure and thereby can be expected to make unbiased reports of actual conditions.

These supplemental inspections are made with the full knowledge and cooperation of the Fire Department and in many cases either of our Assistant Fire Chiefs accompany the inspector thereby increasing to a maximum the quality and efficiency of the inspection service. We would commend

this practice to other communities in the elimination of bad fire risks.

During Fire Prevention Week last year forty business establishments were inspected by the committee. Of this number half of them were open to criticism.

False Alarms

False alarms have for years presented a serious problem to all communities, not only because of the danger of accidents which might result in the loss of life and the possibility of wrecking a very expensive piece of fire fighting equipment, but mainly because it necessarily takes the equipment out of the station and thereby deprives a given section of the community of fire protection temporarily. Our Fire and Police Departments working hand-in-hand, have to a large extent discouraged the turning in of false alarms, by apprehending these so-called "thrill-seekers," who turn in alarms just for the fun of it.

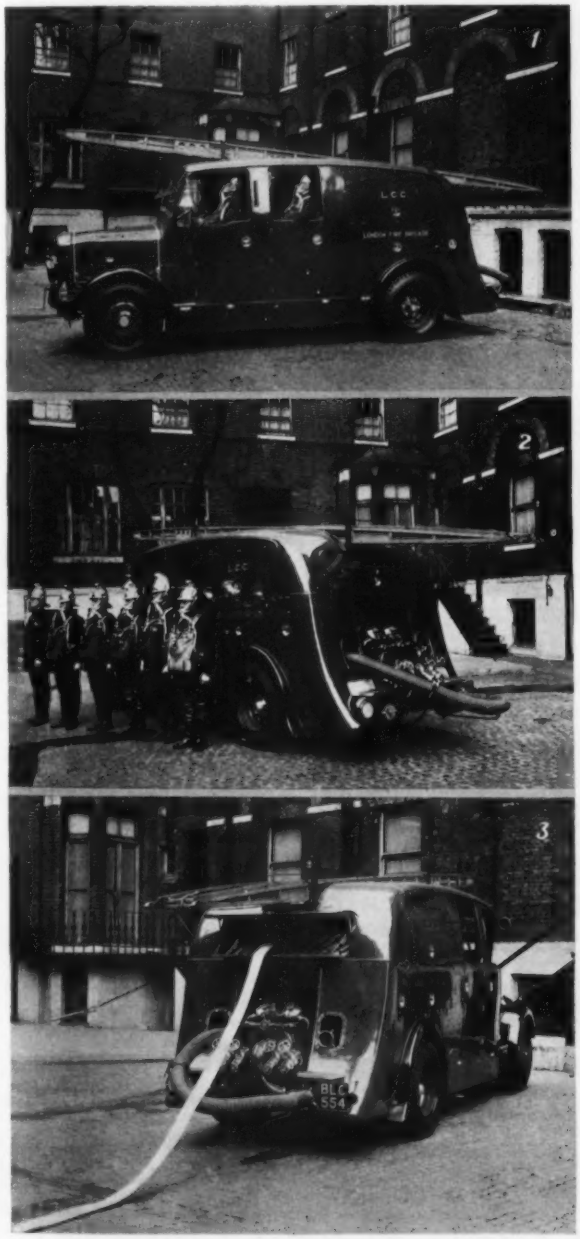
An effective method of demonstrating to industrial employees, school students and citizens on the proper method of pulling a fire alarm is by mounting a fire alarm box on a truck and making demonstrations at industrial plants, schools and in various parts of the city where fire alarm boxes are located. We find it is quite effective.

Most of those engaged in commercial organization work will agree that there are few promotions which will give quicker results, or a greater return in dollars and cents than a fire prevention program.

A fire broke out in a factory in a midwestern city several years ago. The blaze destroyed so much of the plant that several thousands of workmen were thrown out of work for three or four months before production could be resumed. Then there might have been a chance that that particular factory would not have been rebuilt, because it has been estimated that 60 per cent of the factories destroyed by fire never rebuild or resume operations.

Fire prevention does not have to be sold to the average city. But it should be emphasized more. Perhaps the way it is presented would be streamlined to win attention, in the same way that the automobile manufacturers this year dressed up practically the same old chassis with bright, new, and attractive metal coverings.

(Excerpts from an address before the annual meeting of the Fire Waste Council.)



Apparatus of the London, England, Fire Brigade

1—Side view of the completely enclosed fire apparatus unit of the London Fire Brigade. The ladders are carried on top. 2—Members of the company lined up in front of their apparatus. The pumper arrangement may be seen in the rear. 3—Rear of the apparatus showing the hose compartment on top, the hard suction, the pump, gauges and discharge ports. The pump is of 600-gallon (720 U. S. gallons) capacity. The large suction hose for coupling up the pump to the hydrants is stowed in tunnels running through the body. On top of the body are the hook ladders and a 40-foot extension ladder. The crew are provided with the latest type of self-contained oxygen breathing apparatus.

FIRE SAFETY THROUGH EXERCISE OF CARE IN USE OF ELECTRICITY

Oregon Insurance Department Broadcasts Instructions Over the Radio to Householders on the Subject

By E. A. Taylor
Deputy State Fire Marshal of Oregon

THE use of electricity on the farm and in the home has automatically introduced both danger and safety. It may seem unusual that two reactions of opposite character are used in the same sentence, but we all know that people have been killed and fires have been started by electricity, and again its use has made it possible to discontinue the use of the more dangerous kerosene and gasoline lamps, thereby introducing safety. Light, heat or power are always accompanied by their respective fire hazards, but electricity, when properly installed and applied, is no doubt the safest method commonly used.

A proper installation means that the wires and switches used are of sufficient size to carry the load properly and that they are jointed and insulated and securely fastened in place. It is then protected by various sizes of fuses of a sufficient capacity to carry the load but which will burn out or blow in case of an overload. Most dangers in electrical installations are caused by persons who know little or nothing about wiring tampering with or adding to the existing installation. Many times wires and switches too small to carry the load are selected. These are installed without being properly insulated and with poor joints as connections. If an electric wire or switch is overloaded, it heats. Poor connections heat even without the wires being overloaded. All joints should be soldered.

How Fires in Insulation Start

Naturally those wires which are in the walls or dead air spaces heat faster than those in the open air, because ventilation has a tendency to cool them, so you should not be surprised to have a fire, which is caused by an overloaded wire, occur in some out of the way place where it may gain considerable headway before being discovered. I have been asked how a fire of this type starts. The most common insulation for wires used in wiring houses is rubber covered with a cotton braid which is saturated with paraffin.

These are all highly combustible materials and will ignite when subject to sufficient heat from the hot, overloaded wire. When the insulation has become ignited, it in itself makes a very hot fire which will quickly communicate to wood or other combustible materials.

Overloads From Added Electrical Uses

Many houses which have been wired for a number of years have overloaded conditions. The introduction and use of the many electrical conveniences, such as the iron, toaster, percolator, radio, etc., has increased the load in almost every home. We want more light and have replaced the old globes with larger ones and in general we use more electricity. Do you know that the average electric iron adds about three-fourths of a horse power to your electric load? Other appliances add to the load proportionately. When a competent and reliable electrician does wiring for you, he anticipates these conditions and provides for it in your installation.

Carelessness Causes Many Fires

Now, let us assume you have your house safely wired and you no longer have the advice or guidance of the electrician. Your own actions will determine the degree of your safety. No doubt more fires are caused by some practice or abuse than are caused by faulty or defective installations. Many of these causes are so obvious that they are ridiculous. Light globes against clothes or combustible materials and forgotten irons probably are the most common causes. The globe now used becomes very hot and will set fires. The electric iron is probably the most common offender. It starts fires just as the unloaded gun keeps killing people.

Care of Electric Cords

Practically all appliances are connected by cords. These cords are subject to much wear, and many times abuse, making them constitute fire hazards. If the following simple rules will be followed, your cords will last much longer and be much safer.

First: Select safe, reliable cords. If you insist on cords which bear the label of approval of the Underwriters, you may rest assured as to their quality and safety.
Second: Never run cords under rugs. They become worn too quickly.
breaks the protective covering.
Fourth: Cords should never be run over radiators or steam pipes.
Fifth: If the cord is to be used in damp places or over metal, insist upon cords approved for use in damp places and where contact with metal is likely to occur.
Sixth: Do not disconnect appliances by pulling on the cord. This loosens the connections and is a frequent cause of trouble.
Seventh: Cords should not be used as a substitute for permanent and properly installed wiring.
Eighth: All cords should be examined regularly. Worn out cords should be replaced immediately to prevent short circuits.

Importance of the Electric Fuse

The real safeguard in connection with your electric service is the fusing. The fuse is to electric service as the safety valve is to the steam boiler. The fuse is composed of a link of metal which will melt at reasonably low temperatures. When more electricity passes through the fuse than it is designed to carry, the link heats and melts, thus cutting off the connection, and the electricity is automatically turned off. This happens every time it is overloaded, as in the case of too many lights and appliances being turned on at the same time or when short circuits or grounds occur.

No wiring should be fused to carry a greater amount of electricity than the wiring is designed to carry. Ordinary individual circuits in the home should not be fused in excess of 15 amps. Occasionally a fuse which has been carrying a load very near its capacity will blow without evidence of trouble, possibly having been warmed up a number of times but not to the melting point; however, a check should be made before it is replaced with a new fuse to ascertain that all is well. If trouble exists and has not been corrected, you could replace the fuses indefinitely and they would continue to blow. If you would keep increasing the capacity of the fuses, you would eventually cause a fire by supplying sufficient current to cause excessive heating in the overloaded wires or cords. When a short circuit occurs and the fuses do not blow, the wires immediately start heating from the point of short circuit towards the source of supply or where the wires enter the building and keep getting hotter until the insulation starts to burn. You may be able to extinguish the fire in the insulation, but the wires will keep getting hotter, igniting the insulation again and again until the electricity is turned off or the wires have burned in two.

Careless persons sometimes bridge the fuses. This is often done by screwing coins in behind the fuses. In these cases, if a short circuit does develop, there is only one answer. You are going to have a fire.

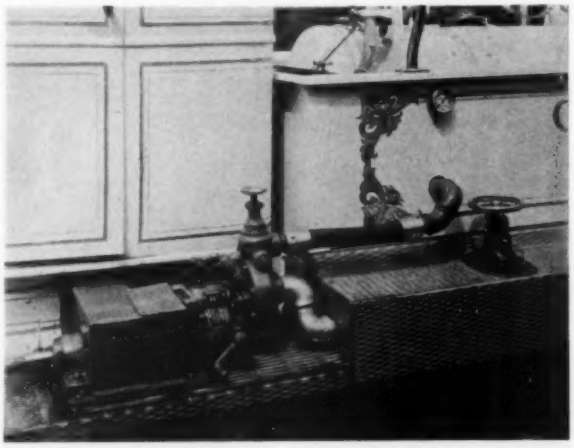
(Excerpts from a broadcast by the Oregon Insurance Department over Station KOAC, located at Corvallis, Ore. These broadcasts are given weekly by the department.)

Fire Protection for Elevated Highway

(*Continued from page 227*)

water and chemical tanks, it has carbon dioxide, carbon tetrachloride, and soda and acid extinguishers.

The unit was tested at the repair shop. When delivering three streams of water from the large tank, water was



Arrangement of Pump on Apparatus

supplied for eleven minutes; when using one stream, the tank was emptied in seventeen minutes. With the 1½-inch hose, it is possible to throw a stream a height of sixty feet. City officials were well pleased with the demonstration.

Fire-Fighting for College Course

A bill has been presented before the legislature of Pennsylvania to teach the technique of fire fighting at the Pennsylvania State College. According to the bill, $25,000 would be appropriated to the college for training the firemen.

N. Y. Firemen to Hold Annual Game

The annual baseball game between the fire and police departments of New York City, will be held June 29. The income will be used for the Fire Department Honor Emergency Fund, Police Department Relief Fund, and the Welfare Department Special Fund. Last year the net receipts were nearly $75,000.

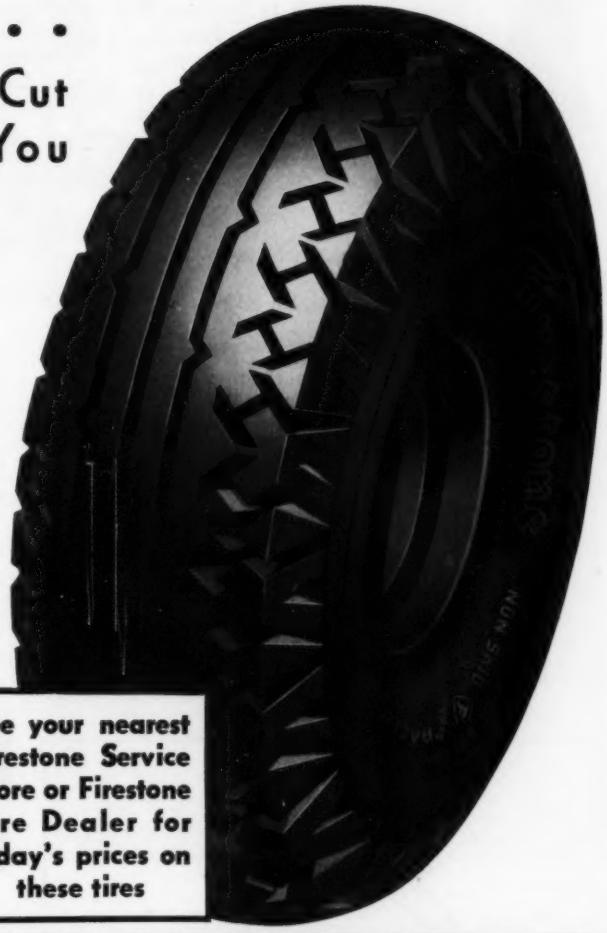
Chief Greenfield Honored

Chief Charles W. Greenfield, of the Arlington Works, Kearny, N. J., and President of the New Jersey State Fire Chiefs Association, was honored on June 6, at a testimonial banquet held at the Essex House in Newark. Chief Greenfield was recently appointed a member of the Passaic Valley Sewage Commission, by Governor Hoffman of New Jersey. This new job will be in addition to his present position as Fire Chief of the Arlington Works.

About 600 friends, including a large number of members of the New Jersey State Fire Chiefs Association, were present to honor the new Commissioner. Included among the speakers at the banquet was Chief John J. Towey, Newark, N. J., President of the International Association of Fire Chiefs.

HIGHER SHOULDERS—WIDER, DEEPER NON-SKID TREAD—MORE RUBBER ON THE ROAD . . . .

These Truck Tires Will Cut Operating Costs for You



FIRESTONE has constantly been the pioneer and leader in the development of balloon tires for trucks, and in the New Firestone Truck Tire for 1935 we have incorporated improvements that enable you to maintain uninterrupted schedules at higher speeds—at *lowest cost per mile.*

A new tread compound has been developed, which is *tougher* and *longer wearing.* The tread has been specially designed with higher, more rugged shoulders and wider, deeper non-skid, with *more rubber on the road.* It is possible to hold this thicker tread to the Gum-Dipped cord body because of the patented Firestone construction of two extra layers of Gum-Dipped cords under the tread. These improvements give you *greatest blowout protection* and *non-skid safety* for the higher hauling speeds of today.

Call on the Firestone Service Store or Firestone Tire Dealer in your community today. Let him show you how these amazing new tires will help cut your operating cost and give you *more dependable service.*

★★★★★ *Listen to the Voice of Firestone—featuring Richard Crooks, Gladys Swarthout, or Nelson Eddy—every Monday night over N. B. C. —WEAF Network . . . A Five Star Program*

See your nearest Firestone Service Store or Firestone Tire Dealer for today's prices on these tires

SPECIFY FIRESTONE TIRES ON YOUR NEW TRUCKS

FIRESTONE
OLDFIELD TYPE
The tire that taught thrift to millions

FIRESTONE
SENTINEL TYPE
Volume production tire for light trucks

FIRESTONE AUTO SUPPLIES FOR TRUCKS AND BUSES

EXTRA POWER BATTERIES
20% more starting power for every Trucking Service

FIRESTONE HEAVY DUTY SPARK PLUGS

FIRESTONE FAN BELTS

FIRESTONE BRAKE BLOCKS AND LINING

RADIATOR HOSE

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DARLEY ENGINEERING SUPREMACY SCORES AGAIN!

New Little Giant Fire Fighter • A Complete Portable Pumper

Brilliantly represents the finest in engineering achievement and dependable fire protection.

Designed and Built to Precision With
Rotary High Pressure Fire Pump
Powerful 16 Horse Power Engine

• Steel frame chassis mounted on a sturdy hollow steel axle, carrying shock absorbers. Pneumatic tire wheels, 16"x4", with roller bearing.

• On the chassis is mounted a 16 H.P. FOUR CYLINDER motor. A powerful 4 cycle engine that easily turns the pump at 1000 R.P.M. It's AIR COOLED, no water to fuss about, it won't freeze, and has electric magneto ignition, etc. Really everything so that it is a self-contained power plant—always ready to go at the turn of a crank; no batteries even to watch or fail.

• The gas tank carries about 4 gallons—enough to keep it going for hours. Gravity feed direct to the carburetor.

• The speed is GOVERNED ☞ regardless of whether the pump is throwing water or is shut off, the engine won't race. Just the motor for the job. Net weight 230 lbs., or only about 14 lbs. per horse power.

• The pump is as compact a unit as you ever saw. Positive displacement type, same as used on fire engine. Built for high fire pressures.

• Especially developed for Villages, Towns and Community districts that need quick real fire protection and could not maintain fire apparatus.

• Capable of SEVENTY-FIVE gallons of water a minute (nearly two barrels) and ONE HUNDRED pounds pressure, it is indeed a fire fighter! See it in action and it will win your respect—your admiration!

• Or at ONE HUNDRED FIFTY pounds pressure watch it bore a stream into burning rubbish, hay, straw, etc., or rip shingles off a burning roof.

OUTPERFORMS ANY CHEMICAL ENGINE OR FIRE EXTINGUISHER

• Just one 2½ gallon hand extinguisher, with which we are all familiar, looks impressive. We think ☞ this mighty portable apparatus equals 30 such extinguishers EVERY MINUTE. In other words, 30 men each with a hand extinguisher would lay 75 gallons on a blaze and then, exhausted, would have to quit. But this powerful Fire Fighter can deliver 75 gallons a minute right along ☞ 750 gallons every ten minutes.

• ☞ At farm fires water is scarce and only obtainable from deep wells. This can be pumped into buckets or milk cans and emptied into the booster tank above the engine (see illustration). From the booster tank the pump takes it and forces it through the hose at high pressure. ☞ A ¼" tip at 100 lbs. pressure, using only about 20 gallons a minute, is very effective as a whip stream.

• For Forest Fire work the apparatus can be trailed by any car or lifted into trucks and carried to the front. On such fires it will pump DAY and NIGHT, through long lines of hose, without stopping and with little effort.

• EQUIPMENT: Besides Engine and Pump mounted on chassis, our price includes a 20 foot complete 2" Suction Hose Outfit with brass couplings and Strainer; 300 lb. Pressure Gauge; Brass Caps on Suction Connections and Discharge Valves; Tool Box; 2 Fire Dept. Electric Lanterns.

• **No. D440.** Portable Fire Engine. Complete as illustrated above and described, f.o.b. Chicago..... **$395.00**

• Has carrying space for 400 feet of 1½" fire hose. Hose extra at $32.00 per 100 feet with couplings.

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AFTER all, a good badge is a sensible investment. Not everyone can wear a fireman's emblem of service. You men who have devoted your lives to saving life and property should be proud of your badge.

You will be if you wear a BRAXMAR BADGE. Over fifty-five years of experience goes into every badge you buy.

Catalog on request.

C. G. BRAXMAR CO., 242 West 55th Street, New York

BRAXMAR BADGES

Standard for Over Fifty Years

REDUCE WATER DAMAGE & INSURANCE RATES,

Shuredry SALVAGE COVERS

100% Protection with Shuredry Salvage Covers

Read what Chief Powell says:

. . . At a recent house fire of 14 rooms where the entire roof was burned off, with a $1500.00 loss to house, our Shuredry Salvage Covers gave 100% protection to the bed rooms directly under the fire besides to all other furniture in the home. Not one cent was paid for water damage to contents.

No fire department is complete without a good supply of salvage covers, and firemen trained how to use them properly. We can always depend on our Shuredry salvage covers and are only too glad to recommend them.

Yours very truly,

R. A. POWELL, Chief
Pierre Fire Dept.
Pierre, South Dakota

Fulton Bag & Cotton Mills

Manufacturers Since 1870

ATLANTA ST. LOUIS DALLAS
MINNEAPOLIS BROOKLYN NEW ORLEANS KANSAS CITY, KAN.

Champion, Chief of Fargo, N. D.

Frank Champion has been appointed Chief of the Fargo, N. D., Fire Department to succeed Chief Sutherland, who has headed the force since the paid department was organized in 1903.

Chief Frank Champion

Chief Champion spent most of his boyhood at Albert Lea, Minn. He moved to Moorhead in 1899. When the paid department was organized in Fargo he moved to that city and has been a member of the department ever since. He served as Assistant Chief since 1911.

Lewiston, Me., Fights Lumber Fire

Damage estimated at $150,000 was caused by a fire on May 27, which swept the plant of the J. W. White Lumber Company in Lewiston, Me., and spread to adjoining properties.

The large 2-story building occupied by the Lewiston Handle and Dowel Company, and by the W. C. Dean Sash and Blind Works was destroyed, and the fire also burned the malt storehouse of the Eastern Distributors, the plant of the A. Comeau Woodworking Company, and four dwellings.

Firemen used shields of composition board to protect them from the fierce heat radiating from the piles of burning lumber. Aid was sent from Auburn and Portland. A conflagration was threatened; but after a hard battle of two hours, the flames were brought under control. Four firemen were overcome by smoke and several others suffered minor injuries.

HARRY BELKNAP.

Mulvihill Chief of Juneau, Alaska

V. W. Mulvihill was elected Chief of the Fire Department at Juneau, Alaska. From 1921-1931, he was a member of the Skagway, Alaska, department. In 1932 he moved to Juneau, and the following year joined the volunteer department at Juneau.

Chief V. W. Mulvihill

Ohio Firemen to Meet

The annual convention of the Northwestern Ohio Volunteer Firemen's Association will be held at Berea, Ohio, June 19. A banquet in honor of the visiting firemen will be held the preceding evening at which Chief James E. Granger of Cleveland will be the speaker. The following day, talks will be given by T. Alfred Fleming, of the National Board of Fire Underwriters, and R. B. Criswell, of the Ohio Inspection Bureau. Mr. Criswell will demonstrate some of the common forms of fire hazards. There will be many cash prizes to be competed for by the visiting fire companies.

Marquette, Mich., has placed new fire apparatus in service.

The department of Decorah, Ia., has been reorganized. Firemen must retire when they reach their fifty-sixth birthday.

Kansas Chiefs Hold Convention

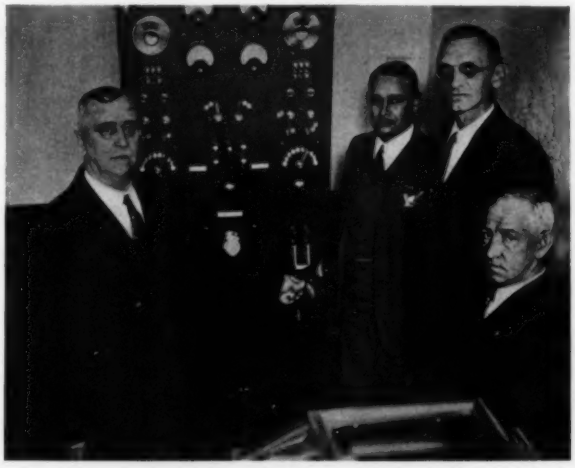
Don J. Rayburn, Chief, El Dorado Fire Department, was elected President of the Kansas State Association of Fire Chiefs at the annual convention held at El Dorado, May 6. The other officers are H. H. McCall, Wichita, Vice-President; K. D. Doyle, Wamego, re-elected Secretary; George Mohrbacher, Marysville, Treasurer.

The Kansas State Firemen's Association held its convention May 6-8 in the same city. The new officers of this association are C. C. Shanholtz, Coffeyville, President; E. W. Edwards, Liberal, First Vice-President; A. R. Williams, Clay Center, Second Vice-President; K. D. Doyle, Wamego, Secretary; George T. Mohrbacher, Marysville, Treasurer.

An address was made by Dr. E. H. Lindley, Chancellor, University of Kansas, and there were other talks by members of the state university and the Oklahoma A. & M. College.

Fire Alarm System for Allingtown

Fire Department Chiefs and officials from several cities in southern Connecticut attended the ceremonies which marked the cutting in of the new fire alarm system at Allingtown, a suburb of New Haven. A last alarm from the old siren was sounded by Chief Milderberger, followed by an official test of the new Gamewell system by Chief Lawrence E. Reif, of the New Haven Fire Department.



Cutting in the New Fire Alarm System

Left to right, Chief Lawrence E. Reif, New Haven, Conn.; Superintendent of Fire Alarm, George Roy; Commissioners Ellis G. Bradley, and John Snyder.

Chief Reif highly complimented the Board of Fire Commissioners for their efforts in advancing from the old type of siren calls to the street box alarm system. Russell A. Glenn, Fire Alarm Engineer of the Gamewell Company, gave a detailed description of the new system which consists of a two-circuit rectifier switchboard, repeater, transmitter, recording equipment, compressed air plant, mutual aid signals in West Haven Fire and Police Departments and twenty-six Three-Fold fire alarm boxes of the latest type.

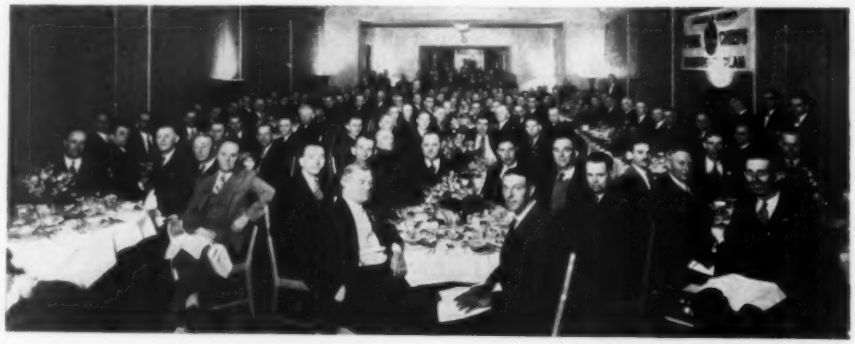
Among the guests present were: Chief John S. Pachl, President, New England Association of Fire Chiefs; Chief Lawrence E. Reif, New Haven; Chief Lewis Stowe, Milford; Chief M. W. Lawton, Middletown; Chief Edward Pracney, Wolcott; Chief Harold Carey, Derby; Asst. Chief Francis Spaine, New Haven; Asst. Chief Warren Burns, Milford; Sherlon Baldwin, Supt. of Fire Alarms, Milford; William M. O'Hara, President Board of Fire Commissioners, Milford; Supt. Charles Zimmer, Meriden; Supt. William Russell, West Haven; Commissioner Clifford Merwin, Shelton; Supt. George Wilson, Shelton; Commissioners John Snyder, E. G. Bradley and A. Valery of Allingtown and George Roy, Supt. of Fire Alarms, Allingtown. THOMAS F. MAGNER.

Firemen of Radburn, N. J., arranged a party to mark the arrival of new fire apparatus. Refreshments were served. Children were treated to firemen's hats and rides on the new apparatus.

Fairfield Chiefs' Dinner Well Attended

Over 200 Chiefs and other Fire Department officials attended the second annual meeting and banquet of the Fairfield County Fire Chiefs' Emergency Plan, which was held at the Barnum Hotel, Bridgeport, Conn., on the evening of Wednesday, May 22. President Daniel Knickerbocker presided at a short business meeting, at which the following officers were elected for the ensuing year:

President—Chief F. R. Gisborne, Old Greenwich.
First Vice-President—Chief Sydney Stapely, Nichols.
Second Vice-President—Chief Horace Walker, Ridgefield.
Third Vice-President—Assistant Chief Bernard Scully, Westport.
Treasurer—Chief George Brencher, Darien.
Secretary—John Moehring, Stamford.
New Board of Directors—Chief Daniel Knickerbocker, Springdale; Ex-Chief Peter Beckerle, Danbury; Chief Charles Volk, South Norwalk and Fire Commissioner Clifford Merwin, Shelton.
Old Members of Board—Chief Victor Veit, Stamford; Chief Allan Judson, Stratford; Chief James Thomas, New Canaan, and Ex-Chief W. P. Sherwood, Southport.



The Annual Banquet of the Fairfield County Fire Chiefs Emergency Plan at Bridgeport, Conn.

The question of the place of the next meeting was left to the Board of Directors. Thirty-five new members were elected.

At the banquet, which was presided over by "Doc" William Moore, an address of welcome was made by Mayor Jasper McLevey, of Bridgeport. Addresses were also made by George L. Swan, Engineer, National Board of Fire Underwriters; Dr. Andrew Derwald, Consulting Scientist, New York City, who gave a short talk on "Explosives"; Chief Krows, President of the Fire Chiefs Emergency Plan, of Westchester County, N. Y.; Chief Arthur Chambers, Yonkers, N. Y.; Chief Thomas Burns, Bridgeport, Conn., and Chief Knickerbocker. The latter thanked the members for their support during his administration. Assistant Chief Scully presented a radio set to the retiring President on behalf of the members of the Plan.

Fire-Resistant Fabric for Aircraft

As the result of study carried on by the National Bureau of Standards, with the financial assistance of the National Advisory Committee for Aeronautics, a non-inflammable doped fabric has been developed for aircraft.

An airplane covering with very good resistance to ignition can be obtained by the application of 3:7 boric-acid-borax mixture to airplane cloth and subsequently doping it with cellulose acetate. This doped and fireproofed cloth, containing about five per cent of the boric-acid-borax mixture, by weight, will not burn in a horizontal or vertical position, and is not ignited by lighted matches or burning gasoline.

Investigation was also made of natural and synthetic resins and mixtures of synthetic resins with cellulose nitrate and cellulose acetate. The resins do not tighten the fabric sufficiently to be satisfactory as airplane dopes. In general a 3:1 ratio of cellulose derivative to resin is necessary to attain satisfactory tautness, and in this proportion, even the least combustible resins do not improve the fire resistance of the doped fabric. No method has been found of fireproofing airplane fabric doped with cellulose nitrate, and still maintain satisfactory tautness and weight requirements.

McCarthy Heads Massachusetts Chiefs

Chief Charles L. McCarthy, of the Worcester Fire Department, was elected President of the Fire Chiefs' Club of Massachusetts at the annual meeting held in the Hotel Bancroft in Worcester on May 15.

The other officers chosen were as follows: Chief William C. Mahoney, Peabody, First Vice-President; Chief Frank F. Dickinson, Brockton, Second Vice-President; Chief William H. Hill, Belmont, Secretary-Treasurer; Chief Manuel S. Miguel, Manchester, Sergeant-at-arms; Chief Robert M. Tappin, Gardner; Chief Thomas F. Mahoney, Westfield; Chief Ray D. Wells, Falmouth; Chief Thomas F. Slaman, Wellesley, and Ex-Chief Daniel F. Sennott, Boston, Board of Directors.

There were seventy members and associates present. It was voted to accept the invitation of Chief Albert C. Melendy, of Nashua, and the New Hampshire Fire Chiefs' Club to attend the ladies' day at the Benson Animal Farm in Nashua on June 12.

HARRY BELKNAP.

Municipal Signalmen to Meet

A joint convention of the Associated Municipal Signal Services, a group of municipal signal associations, is to be held at the Hotel Campbell, Poughkeepse, N. Y., on June 20 to 22. The subjects to be treated and the speakers are as follows:

"What is Around the Corner?" By Leroy Allen.
"Rules for Joint Underground Construction." By George Fickett.
"Measuring Ground Resistances." By S. W. Borden.
"New Methods of Cable Support." By Vivien Kellums.
"Police Signals." By Frank Bridges.
"The Neon Arrester. Its History, Operation and Performance." By L. S. Brach
"A. D. T. Protection Service." By K. C. Edwards.
"Rules for Joint Aerial Construction." By Frank Viet.
"Horni Audioplex." By Paul Horni.
"First Line of Defense." By Jos Siddall.
"Police Radio, Municipal, County or State." By Wm. Jordan and T. A. J. Hayes.
"The Federal Door for False Alarm Elimination." By Federal Alarm Equipment Corp.
Wm. Franklin, Fire Alarm Consultant.

A site has been approved for the construction of a fire station in Wilmington, Del.

A Demonstration of the Value of Asbestos Suits

At a special demonstration for the Royal Aeronautical Society at Bayes, England, a man dressed in an asbestos suit sat in the cockpit of an airplane which was set afire. The man waited until the flames were blazing all around him, and then he calmly got out of the cockpit and walked away, unharmed. He is here shown being assisted away from the fire.

(Photograph courtesy of International Newsreel)

Headline Cases.. H-H Inhalators on the job Saving Lives

Gas or smoke asphyxiations, drownings, electric shock cases,—*all forms* of respiratory failure are best treated with H-H Inhalators used in conjunction with artificial respiration . . . *officially accepted* by the Council on Physical Therapy of the American Medical Association . . . *approved* by the American Gas Association and the Association of Police and Fire Surgeons . . . *used* literally everywhere. If your men are exposed to hazards of this type, send for Bulletin CA-1, or better still, let us arrange a practical demonstration of the H-H Inhalator for you.

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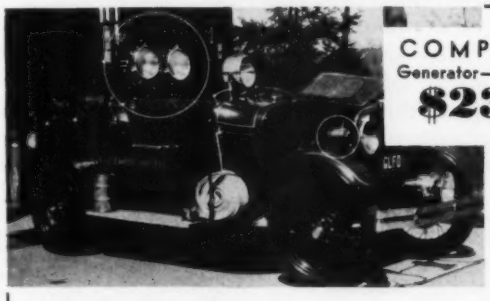

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Generator—2 lights
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Light-up Night Fires with a Flarolite

PORTABLE FLOODLIGHT OUTFIT

A practical, inexpensive floodlighting outfit easily attached to any fire truck or chief's car. Operates from fan belt or power take-off. Provides ample 110 volt A.C. current for two big portable floodlights. No attention required, just roll up to fire, keep motor going, turn on switch and there's your light and lots of it. Set includes 450 watt generator, 2 lights, brackets, switch, sockets, connectors, 250 feet heavy rubber covered cable, all complete ready to install. Single Light Outfit, $135.00.

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Low Priced Portable Lighting Plant

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The picture shows how easily one man can carry this highly portable 650-watt generator which weighs only 71 lbs. complete with gasoline engine. Here is a rugged, dependable unit that fits snugly on the running board of any piece of apparatus . . . and can be quickly removed and carried wherever desired. This advanced unit has a high-tension, waterproof magneto that shoots a hot spark and makes starting easy. Air-cooled engine cannot overheat or freeze.

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By FRED SHEPPERD

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TRAINING OF FIREMEN
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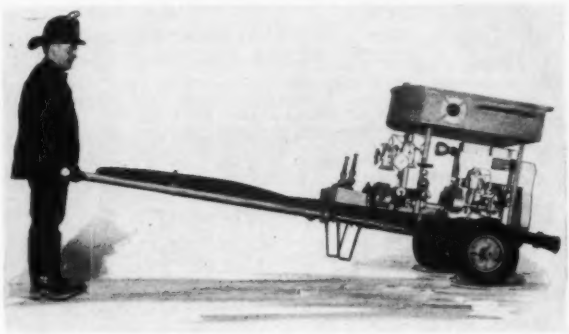
Manufacturers' Announcements

Hand-Drawn Pumper for Small Villages

A 16 h.p. engine, connected to a 75-gallons per minute rotary pump, has been mounted on a two-wheel chassis, with pneumatic tires, by W. S. Darley & Co., Chicago, Ill., for Fire Departments of small towns and communities.

The engine is air cooled, 4-cycle. The gasoline tanks hold about four gallons. Regardless of whether the pump is deliverying water or not, the engine will not race.

The pump, which weighs seventy pounds, has two discharge outlets. The makers recommend the use of one



Hand-Drawn Fire Department Pumper

¼-inch and one ⅝-inch tip, with 200 to 300 feet of 1½-inch hose. Fire hose, as much as 400 feet, can be coiled in the tank above the engine.

The outfit consists of the pump and engine on a steel chassis; twenty feet of 2-inch suction hose with brass couplings and strainer; brass caps for suction connection and discharge valves; tool box; fire department electric lanterns.

In addition to being suitable for fighting fires in a village, it fills a need in the forest fire service. The unit can be trailed from a car, or carried in an automobile to the woods. Due to its compactness it can be moved by hand to points not reached by larger apparatus.

Hand Type Carbon Dioxide Extinguisher

A hand type extinguisher, containing two pounds of carbon dioxide gas, is being marketed by Walter Kidde & Co., Bloomfield, N. J., for use in extinguishing fires in garages, automobiles, and electrical equipment. The complete extinguisher weighs nearly eleven pounds. A valve permits the gas discharge to be turned on or off in a manner similar to a water faucet. It does not require recharging until all the gas has been released.

Carbon Dioxide Extinguisher Used on Automobile Fire

Federal Alarm Equipment Corporation

An error was made in the address of the Federal Alarm Equipment Corporation, which was listed in the previous issue as Dayton, Ohio. The correct address is Mercantile Library Building, Cincinnati, Ohio.

Volunteers Discuss Outside Aid

A meeting of the North Shore Fire Council, a mutual fire aid organization, was held at Glenwood Landing, N. Y., May 10. The members discussed the protection of villages and similar areas not maintaining their own equipment. The opinion prevailed that it was a bad policy for any district to extend fire protection to such districts, except at a charge commensurate with the tax rate of the village supplying the fire protection service. Contracts should not be for less than a three year period.

The new officers are James McInnes, Jr., Syosset, President; James Kelly, Oyster Bay, First Vice-President; Oscar J. Wiggins, Glenwood Landing, Second Vice-President; Walter J. Hoagland, East Norwich, Treasurer; Peter E. Lynch, Roslyn, Secretary.

The next meeting will be held at Syosset, on June 14.

Iowa School Well Attended

Many persons prominent in the fire fighting and fire protection fields, served as instructors for the Iowa Fire School held at Ames, Ia., May 21-24. There were 488 persons registered.

The teaching staff included Thomas F. Dougherty, former Assistant Chief of the New York Fire Department; L. J. Murphy, Director, Iowa Fire School; David J. Price, Chemical Engineering Division, U. S. Department of Agriculture; Chief Art Olsen, Omaha; Chief M. P. Gunderson, Oelwejn; Chief Frank C. McAuliffe, Chicago Fire Patrols; Chief H. J. Callahan, Ft. Dodge, Ia.; J. Strohm, Iowa State Fire Marshal; Clarence Goldsmith, Assistant Chief Engineer, National Board of Fire Underwriters, Chicago; Chief J. Just, Chicago; Capt. Henry Jurgensen, Minneapolis; Chief Ray Tiller, Waterloo; H. J. Corcoran; and Prof. E. S. Baird, Engineering Extension Service, Iowa State College.

The morning sessions were general. In the afternoon, the firemen could select the lectures they wished to attend.

J. F. Cribbins Dead

Jack F. Cribbins, for twenty-three years San Francisco Manager for the Seagrave Corporation, died on May 16 at his home in Burlingame, Cal. He left the company's employ in November, 1933. He is survived by his widow, a son, and a daughter.

M. I. Crane, Hose Salesman, Dead

Michael I. Crane, for the past ten years representative of the Quaker City Rubber Company, Philadelphia, Pa., died on May 24 at a local hospital following an operation for the removal of his appendix. Peritonitis set in.

He had been engaged in the fire hose business for forty years, and had a wide acquaintance with Chiefs throughout the country. He is survived by his widow and family. Funeral services were held at the Funeral Home of A. J. Blair & Sons, with High Mass at St. Agatha's Church, Philadelphia. Interment was at Chicago.

Kearney, N. J., is considering the purchase of fire apparatus to cost $14,000.

Terre Haute, Ind., approved an expenditure of $15,000 for the purchase of two apparatus units. One of the new trucks to be bought will replace one that was badly damaged in an accident, and the other as replacement for one badly in need of repairs.

CONVENTION DATES

June 11—AKRON, OHIO, REGIONAL FIRE SCHOOL. At Sandy Beach.

June 11-13—TEXAS STATE FIREMEN'S AND FIRE MARSHAL'S ASSOCIATION. 59th Annual Convention, El Paso, Tex. Secretary-Treasurer, Olin Culberson, Edna, Tex.

June 11-14—ILLINOIS FIRE COLLEGE. 11th Fire College, under auspices of Illinois Firemen's Association. Director, Prof. L. H. Provine, Dept. of Agriculture; Assistant Chief Roy W. Alsip, Secretary, Illinois Association, Fire Department, Champaign, Ill.

June 12—NEW HAMPSHIRE FIRE CHIEFS CLUB. Ladies' Day, Benson Animal Farm, Nashua, N. H. Secretary, Chief Albert C. Melendy, Nashua.

June 15—LEBANON COUNTY FIREMEN'S ASSOCIATION. 13th Annual Convention, Lebanon, Pa. Chief Fire Marshal, A. S. Stauffer, Palmyra, Pa.

June 17-18—MISSOURI VALLEY FIRE CHIEF'S ASSOCIATION. Annual Meeting, Hotel Paxton, Omaha, Neb. Secretary, Chief Ray Tiller, Waterloo, Ia.

June 17-18—SOUTH CAROLINA STATE FIREMEN'S ASSOCIATION. 30th Annual Convention, Bennettsville, S. C. Secretary-Treasurer, Chief John H. Wohlers, Charleston, S. C.

June 16—OKLAHOMA FIRE CHIEFS' CLUB. Annual Meeting, Huckins Hotel, Oklahoma City, Okla. Secretary-Treasurer, J. Ray Pence, Stillwater, Okla.

June 17-19—OKLAHOMA STATE FIREMEN'S ASSOCIATION. 41st Annual Convention, Huckins Hotel, Oklahoma City, Okla. Secretary-Treasurer, Charles Slemp, 820 East 19th St., Oklahoma City.

June 17-19—SOUTHWESTERN ASSOCIATION OF FIRE CHIEFS. 8th Annual Meeting, Huckins Hotel, Oklahoma City, Okla. Secretary-Treasurer, Chief J. E. Taplin, Blackwell, Okla.

June 18-20—HUDSON VALLEY VOLUNTEER FIREMEN'S ASSOCIATION. 46th Annual Convention, Monticello, N. Y. Secretary, Chief Chris W. Noll, Poughkeepsie, N. Y.

June 18-19—NORTHWESTERN OHIO VOLUNTEER FIREMEN'S ASSOCIATION. 62nd Annual Convention, Berea, Ohio, Assistant Secretary, R. T. Boone, Second Assistant Chief, Berea.

June 19-21—MARYLAND STATE FIREMEN'S ASSOCIATION. 43rd Annual Convention, Oakland, Md. Secretary, George R. Lindsay, Hagerstown, Md.

June 19-22—NORTHWEST FIRE SCHOOL. 8th Annual School, Spokane, Wash. Chairman, General Committee of Arrangements, Chief W. P. Payne, Sopkane, Wash.

June 20—NEW JERSEY STATE FIRE CHIEFS' ASSOCIATION. Annual Meeting, Flanders Hotel, Ocean City, N. J. Secretary, Fred A. Trowbridge, 29 South Street, Morristown, N. J.

June 20-22—NEW MEXICO STATE FIREMEN'S ASSOCIATION. 13th Annual Convention and 6th Fire College, Santa Fe, N. M. Secretary-Treasurer, Theodore A. Rosenwald, Albuquerque, N. M.

June 20-22—ASSOCIATED MUNICIPAL SIGNAL SERVICES. Group Meeting, Municipal Signal Associations, Hotel Campbell, Poughkeepsie, N. Y. Secretary-Treasurer, Edwin P. Cochran, 420 Yale Ave., New Haven, Conn.

June 21-22—EASTERN ASSOCIATION OF FIRE CHIEFS. 8th Annual Convention, Flanders Hotel, Ocean City, N. J. Secretary, Charles E. Clark, P. O. Box 217, Wayne, Pa.

June 24-27—COLORADO STATE FIREMEN'S ASSOCIATION. 19th Annual Convention and 5th Annual Fire College, Loveland, Col. Secretary, Clinton Turnbull, 215 Boston Bldg., Denver, Col.

June 25-26—SOUTHEASTERN ASSOCIATION OF FIRE CHIEFS. 8th Annual Convention, Hotel Dempsey, Macon, Ga. Secretary-Treasurer, Chief R. S. Baughan, Norfolk, Va.

June 25-27—MICHIGAN STATE FIRE CHIEFS ASSOCIATION. Annual Convention, John R. Murphy Hotel, Mt. Clemens, Mich. Secretary, George Dansbury, Grosse Pointe Farms, Mich.

June 25-27—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS. 13th Annual Convention, New Bedford, Mass. Headquarters, Hotel New Bedford; Exhibits, New Bedford Armory. Secretary-Treasurer, Chief John W. O'Hearn, Watertown, Mass. Chairman, Exhibit Committee, Chief Daniel B. Tierney, Arlington, Mass.

June 26—CENTRAL WESTERN OHIO VOLUNTEER FIREMEN'S ASSOCIATION. Annual Convention, Union City, O. and Ind. Secretary, Roger O'Donnell, Covington, Ohio.

June 26-27—PROVINCE OF QUEBEC POLICE AND FIRE CHIEFS' ASSOCIATION. 3rd Annual Convention, Quebec, Que., Can. Secretary-Treasurer, Chief Robert Harrington, Fire Dept., McColl-Frontenac Oil Co., Ltd., Windsor Hotel, Montreal.

July—MICHIGAN STATE FIREMEN'S ASSOCIATION. 61st Annual Convention and 7th Annual Fire College, Detroit, Mich., probably in middle of July. Secretary-Treasurer, Statistician and Director, Fire College, Charles V. Lane, Charlotte, Mich.

July 8-10—FLORIDA STATE FIRE COLLEGE. 6th Annual College, Daytona Beach, Fla. Address Chief Floyd C. Pfaender, Winter Haven, Fla.

July 12-13—LAKE ERIE FIREMEN'S ASSOCIATION. Regional School, Lyndhurst, Ohio. Secretary-Treasurer, and Chairman, Committee on Arrangements, Chief June A. Falkner, South Euclid, Ohio.

July 16-17—MARITIME FIRE CHIEFS' ASSOCIATION. 21st Annual Convention, Moncton, N. B. Secretary-Treasurer, Capt. K. J. MacRae, Salvage Corps and Fire Police No. 1, Saint John, N. B.

July 16-18—GREAT LAKES FIRE CHIEFS' ASSOCIATION (Division, I. A. F. C.). Annual Convention, Lansing, Mich. Secretary-Treasurer, Chief R. E. Mottesheard, 4501 Schaefer Rd., Dearborn, Mich.

July 17—NASSAU COUNTY FIREMEN'S ASSOCIATION. Quarterly meeting, Glenwood, N. Y., fire headquarters. Secretary, James McInnes, Jr., Syosset, N. Y.

July 18-19—CATTARAUGUS COUNTY VOLUNTEER FIREMEN'S ASSOCIATION. 1st Annual Convention, Little Valley, N. Y. Address, Chief S. L. Worth, Little Valley, N. Y.

July 24-25—CENTRAL NEW YORK FIREMEN'S ASSOCIATION. 42nd Annual Convention, Corning, N. Y. Secretary, Thomas J. Murray, Cortland, N. Y.

July 29-Aug. 1—WEST VIRGINIA FIRE SERVICE EXTENSION SCHOOL. 5th Annual School, West Virginia University, Morgantown, W. Va. Address, Secretary, W. Va., Fire Chiefs 'Ass'n., C. B. Powell, Romney, W. Va., or Prof. Lewis V. Carpenter, Director, at University.

July 30—WEST VIRGINIA FIRE CHIEFS' ASSOCIATION. 4th Annual Meeting, West Virginia University, Morgantown, W. Va. Secretary, Chief C. B. Powell, Romney, W. Va.

Aug. 8-10—UTAH STATE FIREMEN'S ASSOCIATION. 28th Annual Convention, Heber City, Utah. Secretary, J. J. Creedon, Bingham, Utah.

Aug. 12-13—PANHANDLE FIREMEN'S ASSOCIATION. Annual Convention, Plainview, Tex. Secretary-Treasurer, Quincy Wilson, Vernon, Tex.

Aug. 13-15—WISCONSIN PAID FIREMEN'S ASSOCIATION. 28th Annual Convention, Wausau, Wis. Secretary-Treasurer, William H. Schultz, Sheboygan, Wis., Fire Department.

Aug. 13-16—DOMINION ASSOCIATION OF FIRE CHIEFS. 27th Annual Convention, Brockville, Ont., Can. Secretary, Chief James Armstrong, Box 56, Kingston, Ont.

Aug. 16—VERMONT STATE FIREMEN'S ASSOCIATION. 45th Annual Convention, Montpelier, Vt. Secretary, J. Shank, Poultney, Vt.

Aug. 16-17—WEST VIRGINIA FIREMEN'S ASSOCIATION. 35th Annual Convention, White Sulphur Springs, W. Va. Secretary, T. F. Vernon, Keyser, W. Va.

Aug. 18-21—NEW YORK STATE PERMANENT FIREMEN'S ASSOCIATION. 17th Annual Convention, Binghamton, N. Y. Secretary-Treasurer, Frank A. Emden, 1403 Mather Ave., Utica, N. Y.

Aug. 22-24—OHIO FIRE CHIEFS' ASSOCIATION. 18th Annual Convention, Columbus, Ohio. Secretary-Treasurer, Chief Philip J. Harty, Youngstown Sheet & Tube Co., Youngstown, Ohio.

Sept. 2-5—KENTUCKY FIREMEN'S ASSOCIATION. 16th Annual Convention, Georgetown, Ky. Secretary, W. S. Lipscomb, Fire Department Headquarters, Lexington, Ky.

Sept. 3-6—CALIFORNIA STATE FIREMEN'S ASSOCIATION. 13th Annual Convention, Glenwood Mission Inn and Municipal Auditorium, Riverside, Cal. Secretary-Treasurer, H. E. Strasser, 1171 Tenth Ave., San Diego, Cal.

Sept. 7—MID-HUDSON-HARLEM VALLEY FIRE CHIEFS' ASSOCIATION. Regular meeting, Beacon, N. Y. Secretary, Henry F. Drake, Clinton Corners, N. Y.

Sept. 9-11—WISCONSIN STATE FIRE CHIEFS' ASSOCIATION. 7th Annual Convention, Hudson, Wis. Secretary, A. C. Miller, Wisconsin Rapids, Wis.

Sept. 10-13—STATE FIRE SCHOOL FOR OFFICERS. To be held at Columbus, Ohio.

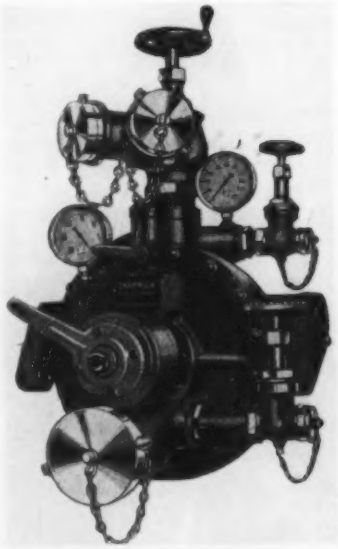
Sept. 24-27—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. 63rd Annual Convention, Hotel Andrew Johnson, Knoxville, Tenn. Secretary-Treasurer, Ex-Chief James J. Mulcahey, Yonkers, N. Y.; Chairman, Exhibit Committee, Chief M. T. Kenedy, East Orange, N. J.

Oct. 1-3—FIREMEN'S ASSOCIATION OF PENNSYLVANIA. 56th Annual Convention, Connellsville, Pa. Secretary, Charles E. Clarke, Wayne, Pa.

Oct. 15-17—ILLINOIS FIREMEN'S ASSOCIATION. 48th Annual Convention, Waukegan, Ill. Secretary, Asst. Chief Roy W. Alsip, Champaign, Ill., Fire Department.

Underwriters Test Darley Pump

Tests were recently conducted by the National Board of Fire Underwriters' Engineers of the Darley F400 pump.



Darley Champion Pump

On direct drive without the impeller being geared up, and through a multiple disc clutch, at a speed of 2,553 r.p.m. the pump delivered 406 g.p.m. at 125 pounds net pump pressure. On the high pressure test it delivered 203 g.p.m. at 202 pounds net pumping pressure at 3.002 r.p.m. The test, which was a regulation 12 - hour performance test, was completed satisfactorily in every respect by the Darley F400 pump. Test was conducted on a V-8 1935 Ford chassis. The pump, with all attachment, weighs 175 pounds.

In reporting this news in the May issue, the item was headed "Darley Lamp" instead of "Darley Pump."

Kennewick, Wash., has acquired new fire apparatus carrying a 500-gallon pumper and booster equipment.

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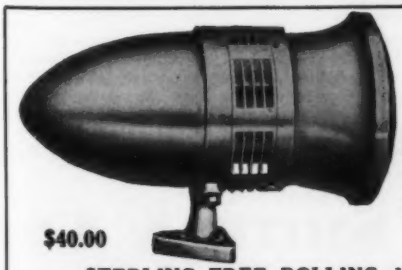


NEW STERLING STREAMLINE SIREN

$40.00

STERLING FREE ROLLING JR. NO. 20

Beautiful—Powerful, distinctive tone—moderately priced—precision built and guaranteed perfect mechanically by the world's largest exclusive maker of sirens.

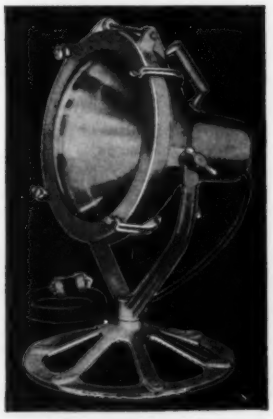
Stick to Sterling—makers of quality sirens since 1902.

The Sterling Siren Fire Alarm Co., Inc.

56 Allen St., Rochester, N. Y.

S&M LAMPS

Known From Coast to Coast as "America's Best"



No. 1601-FD
500-Watt Flood-Lite

● Only the best will do in fire-fighting. That, briefly, is why we have taken such exceptional care in the manufacture of Search-Lites and Flood-Lites ever since we began producing them over twenty-six years ago.

S&M Lamps are used by hundreds of fire and police departments. The S & M line includes all types of Flood-Lites, Spot-Lites, Search-Lites and Safety-Lites. A typical installation is shown in the illustration below.

S&M Portable Flood-Lites are suitable for any type of generating equipment you plan or are now using.

Write today for folder describing all types of lamps for Fire Department use.

S & M LAMP CO. - - LOS ANGELES

WHEAT FIRE OFFICERS SPOTLIGHT

25,000 Candlepower at $17.50

(Single Bulb Type) Chrome Plated and weighs only 87 ozs.

The Light That Never Failed—

because it is equipped with a rechargeable battery and a double filament bulb.

Its battery has a life of 1,000 hours, *not* 10 *hours.*

Its bulb has a life of 100 hours, *not* 10 *hours.*

By the use of the Shoulder Strap, which is supplied without charge with the light, both hands are left free to climb ladders or to work with.

You can now buy WHEATLIGHTS from your Fabric Hose Salesmen.

KOEHLER MFG. CO.
MARLBORO, MASS.

The **GOODALL AGENCY Plan** affords an opportunity to build a profitable business in the sale of

FIRE HOSE FIREMEN'S BOOTS FIREMEN'S COATS

Exclusive territory in your locality.
Write for details.

GOODALL RUBBER COMPANY
5 S. 36TH STREET PHILADELPHIA, PA.

Every part of every Hale pump is thoroughly inspected before assembly. Each pump is thoroughly tested before shipment.

HALE FIRE PUMP CO., Inc.
CONSHOHOCKEN, PA.

Into Action!—

Armed with INDIAN FIRE PUMPS

LIKE skirmishers advancing against the foe, the INDIAN FIRE PUMP crew goes into action against that *greatest enemy*—FIRE!

Each man with his INDIAN can do 50 times the work of a person forced to rely on brooms, sticks or buckets for extinguishing purposes. Seldom is it necessary to refill the 5-gallon tank.

The forest, grass and brush fire season will be at its height in another 30 days. Now is the time to prepare for these trouble makers by ordering an adequate supply of inexpensive INDIAN FIRE PUMPS.

The tank of the INDIAN, being curved in shape, fits the carrier's back snugly and does not slide around as he advances through brush. Extra strong in construction, Smith fire pumps are used by U. S. and State Forest Rangers.

COMBINATION BRASS NOZZLE FOR 30-FOOT STREAM OR A LONG COARSE SPRAY. NOZZLES CHAINED TO PUMP AND CANNOT BECOME LOST
HEAVY BRASS, QUICK OPENING WATER TIGHT FILLER CAP WITH REMOVABLE BRASS STRAINER. CAP HAS HINGE CHAIN TO PREVENT LOSING.
COMBINATION BRASS HANDLE FOR CARRYING TANK AND FOR HOLDING PUMP
EXTRA HEAVY TANK HAS SOLID BRASS BOTTOM. ALL JOINTS LOCKED AND SOLDERED. BUILT STRONG.
PATENTED
FORM-FITTING, VENTILATED TANK GIVES A CONSTANT CIRCULATION OF AIR BETWEEN TANK AND CARRIER'S BACK. IT PROTECTS THE BACK FROM THE COLD WATER AND MOISTURE IN THE TANK AND KEEPS THE BACK WARM AND DRY. THE FORM-FITTING SHAPE OF THIS TANK FITS THE BACK PERFECTLY, SNUG AND FIRM AND FEELS GOOD.

The INDIAN uses only clear water; no chemicals to buy or bother with. Quickly refilled from stream or faucet. Throws strong 50-ft. unbroken fire stream with ease. Ventilated tank feature keeps carrier's back warm and comfortable, and this is a great aid in the hazardous work of fighting fires. The INDIAN combines the ideas of the foremost authorities on forest, brush, grass, and grainfield fire fighting. *Write for details or see nearest agent.*

Made in U. S. A. by

D. B. SMITH & Co.
405 Main Street, UTICA, N. Y.

Pacific Coast Agents

Hercules Equip. & Rubber Co., 11 Mission St., San Francisco, Cal.
Pacific Marine Supply Co., 1217 Western Ave., Seattle, Wash.
Western Loggers' Machinery Co., 302 S.W. 4th St., Portland, Oregon

FALSE ALARMS

STRAIGHTENED OUT

Jones was one of those who was always suffering from some form of imaginary ailment. Each conflict that he had with the forces of the world, produced some symptom similar to a known disease. Poor business left its mark, but the greatest shock, from which he never seemed to recover, was an early morning fire in his home from which he and his family just managed to escape.

Some time after this, he came staggering home early in the afternoon. He was bent forward. He tottered to a chair, and, still curled into a half-moon shape, dropped into it.

"Mary," he gasped to his wife, "the long expected has come at last. There was no warning. All of a sudden I found I couldn't straighten up. I can't lift my head. Hurry for the doctor."

When the doctor had seen the patient, Mrs. Jones, fearing the worst, inquired:

"Is there any hope?"

"Well, madam," said the doctor, "it will help a good deal if he will unhitch the third buttonhole of his vest from the top button of his trousers."

Save when you're young so you can buy things you can't use when you're old.

ABRIDGED FORM

The Lieutenant was about to be married, and so some of the boys arranged a party in his honor. Like all gatherings of that nature, the festivities were prelonged to an early morning hour.

One of the boys who was married, was asked by a friend:

"What did your wife say about your being out so late last night?"

"She's not through yet. When she finishes with the subject, I'll condense it for you."

An architect's error today is a breakfast nook tomorrow.

JUST NATURAL

"Liza, you remind me fo' all de world of brown sugah."

"How come, Sam?"

"You am so sweet and so unrefined."

PREFERRED LIST

An instructor was showing some of the men the prone pressure method of resuscitation. A crowd of interested spectators had gathered around, and the instructor was working on the "victim." A slightly intoxicated gentleman strolled up to the outer fringe of the crowd and inquired:

"Shay, wash going on here?"

One of the crowd answered, "They're saving people."

"Fine," said the unsteady visitor, "tell 'em to save me that big blonde over there by the door."

If it's funny enough to tell, it's been told; if it hasn't been told, it's too clean; and if it's dirty enough to interest the boys at the station, a new False Alarm editor is selected.

SMALL RISK

The new insurance agent was somewhat surprised at the request that he call at his office at once.

The manager was very indignant. He asked, "Why in the world did you ever write a policy on a man ninety-eight years old."

"Well," explained the new agent, "I looked in the census report and I found there were only a few people of that age who died each year."

Some people are like the flea, who crossed the bridge on the elephant's back, and then said, "Boy, we sure made that thing shake."

JUST DELICATE

Mrs. Reilly did not smell smoke. She performed her regular Saturday night duties. Her neighbors did smell smoke. That is why some firemen entered a few of the apartments uninvited.

Mrs. Reilly told her experience to a neighbor.

"Yes," I sez to him, sez I, "if you was as much of a gentleman as I was a perfect lady, you'd get the hell outa here."

RESULT OF ECONOMY

Due to the cuts which were given to the members of the department, the Lieutenant was forced to teach his bride the advantages of a budget system, and the importance of running the house according to a budget.

One night when he came home, she said to him:

"John, I bought some sheets, pillow cases and blankets today. Shall I put them down in my budget as cover charge or overhead?"

—Courtesy, Collier's Weekly

"It was Philbert that put in the call, but I think he's got it under control now."

CLASSIFIED ADVERTISING

Bids Wanted, For Sale and Help Wanted $4 per inch.
Position Wanted, $2 per inch. Column width, 1⅝ inches.

Wanted

FIRE APPARATUS SALESMAN: Desirable and fertile territory for wide awake, energetic, experienced fire apparatus salesman, to represent old established company. Our salesman has been notified of this ad. Address: Box 755, c/o FIRE ENGINEERING, 24 W. 40th St., New York, N. Y.
6-7

For Sale

Reo Chemical Truck good as new. Four forty Gallon Tanks and Accessories. Address: Fire District No. 2, South Vineland, N. J. M. F. Lefebvre, Sec.
6-7-8

Krows Again Heads Westchester Chiefs

Earl Krows, Fire Commissioner and member of the Board of Trustees of the village of Hastings-on-Hudson, and formerly Chief of the Fire Department, was reelected President of the Westchester County Fire Chief's Emergency Plan at the annual election of officers on the evening of May 15. The occasion marked the sixth annual dinner of the organization, and was held in Murray's Restaurant, on the Bronx River Parkway, at Tuckahoe.

Fire Commissioner Earl Krows

Other officers named, all reelected, were: R. J. H. Lemon, former Chief of the Mamaroneck department, First Vice-President; James McGuire, Chief of the Peekskill volunteers, Second Vice-President; Walter A. Mertz, Chief of the Port Chester department, Third Vice-President; former Captain Eugene Riviere, of Larchmont, Treasurer, and former Captain Walter N. Dawkins, Port Chester, Secretary.

There were 149 Chiefs and other officers of the "Plan" and invited guests present. Following the dinner and the election and installation of officers, Commissioner W. J. McNamara, of the Town of Eastchester, acted as toastmaster.

Judge Harry Hoop, of Bronxville, complimented the "Plan" and its re-elected President, and spoke about the new laws either proposed, or passed in the Assembly in Albany relating to volunteer Fire Departments. Brief talks were made by President Krows, Commissioner Dennis M. Morrisey, of Yonkers, and others. In the interlude between talks, and following the session, there was entertainment provided through the courtesy of Murray's. The arrangements were handled by the Dinner Committee of which Chief Arthur Steuhl, of Eastchester, is Chairman.

Among the invited guests were Chief Knickerbocker, of the Fairfield, Conn., Fire Chief's Emergency Plan, and several other Fire Department officers from that county.

ROI B. WOOLLEY.

Illinois to Hold Short Course

Sherman V. Coultas, State Fire Marshal, announces that the program is about completed for the Eleventh Annual Fire College at the University of Illinois, June 11 to 14, inclusive. The Fire College is sponsored by the Illinois Firemen's Association, with the State Fire Marshal cooperating. The Director of the course is Professor L. H. Provine, of the Department of Architecture of the university.

Four separate schools will be conducted at the college, embracing engineers, inspectors, volunteer departments and job analysis. Practical instruction in first aid and evolutions will be given. Open sessions will be devoted to topics of timely importance.

The course will offer elementary work for those who are attending the first time, with advanced work for those who have attended previous courses. Particular attention will be given to the volunteer department. Sessions on three days will be offered for instruction of firemen belonging to the smaller departments.

Woodhouse Company Marks 50th Anniversary

The Woodhouse Manufacturing Company, Inc., 156 Chambers Street, New York City, is celebrating its fiftieth anniversary this year.

The company was formed by its President, D. A. Woodhouse, in 1885, and it continued along until 1925 when it was reorganized and incorporated. Mr. Woodhouse was one of the early pioneers in the fire engine automobile field, and had one of the first automobile pumping engines that was accepted by the National Board of Fire Underwriters.

George J. Kuss, former Deputy Chief of the New York Fire Department, joined the company in 1919, and is now its Vice-President and Treasurer.

The company represents the Maxim Motor Company, and the Fabric Fire Hose Company in the Metropolitan district, and are dealers in fire department supplies and equipment.

Five Lives Lost at Boston Fire

Five lives were lost as the result of a fire in the home of John Lavalle, noted portrait painter, in the Back Bay residential district of Boston on May 7.

The blaze is believed to have started from the spontaneous ignition of rags used for cleaning silver in the butler's pantry. The flames had obtained great headway and swept up a stairway before the alarm was given shortly before 5 a.m.

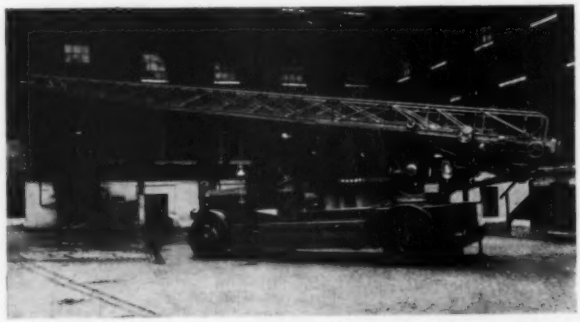
The 70-year old mother of the artist and a 14-year old girl, were burned to death; two maids were killed by jumping from the fourth floor; a member of the family died in a hospital from burns and injuries. A maid was rescued by firemen over a ladder from an iron balcony. A 10-year old boy escaped injury when he jumped and landed in soft ground on the lawn. The artist and his wife were absent at the time of the fire.

The house was an old style brick residence with wooden stairway. Owing to rainy weather, few persons were on the street and the fire burned some time before discovery. The deaths occurred before the first firemen reached the scene. Engine Company No. 33 and Ladder Company No. 13 are housed only three blocks from the scene. Deputy Chief William F. Quigley ordered a second alarm immediately upon his arrival.

HARRY BELKNAP.

New Jersey Signal Men Meet

A meeting of the New Jersey Municipal Signal Association was held at Bellevillo, N. J., on May 16. The speakers and their topics included "Weatherproof Wire," W. E. Cook, General Cable Corporation; "Electrical Fittings," G. Edmund Grundy, Thomas & Betts Company; "The Value of First Aid," L. Brendlen, Davis Emergency Equipment Company.



Morris-Magirus Ladder Used by the London Fire Brigade

A 100-foot Morris-Magirus all-steel turntable ladder has recently been delivered to the Fire Brigade of London, England. The chassis is mounted on pneumatic tires. Rapid action jacks are fitted between the chassis and the ground to relieve the tires of excessive load, and to produce the necessary rigidity when the ladder is in operation.

FLAX FIRE HOSE

Chuck whatever you're doing, just for a few minutes, and let's talk about this wonderful NEW FIRE DEPARTMENT HOSE.

Would it surprise you to say FLAX fire hose is not a new thing!

It astonishes Europeans, especially the British, to come here and see us carrying cotton hose. Fire Departments in the cities of EUROPE, ASIA, SOUTH AMERICA, even CHINA and AFRICA, use FLAX fire hose. ☞ You couldn't sell 'em a dime's worth of cotton rubber tube hose.

Darley Engineers go to Europe, search the world, for new ideas, new equipment, etc. Perhaps the first FLAX fire hose was imported to the U. S. by Darley—examined, analyzed, tested, tried out, proved and found good—in our opinion better, and with more advantages all around.

Inspect, Test, Compare! Flax Fire Hose Outscores All Other Fire Hose Many Ways

- Instead of a rubber lining, or tube, there isn't an ounce of rubber in its makeup.
- Instead of being made of cotton, it's made of FLAX, a tough and tremendously strong fibre.
- It's light, extremely light in weight! You never handled anything so subtle, flexible, with so little bulk to it.
- Just imagine how quickly it can be laid out, carried into buildings, etc.
- For every 1,000 feet of 2½" hose you now carry you could, in the same space, carry 4,000 feet of 2½" FLAX fire hose.
- And compare, ☞ 1,000 feet of cotton Rubber lined weighs 1,080 lbs. ☞ 1,000 feet of FLAX only 240 lbs! Greater efficiency because you save 840 lbs. of dead weight on every thousand feet.
- It dries out and can be put back on your trucks in less than half the time it takes to dry cotton hose.
- AND IT IS MILDEW PROOF. ☞ Treated by a special secret process.
- Not more in price than the best of Underwriters lined hose, which sells at 92c per foot when this was written, but for LESS THAN HALF THE COST.
- The 2½" regulation size stands a pressure test of OVER 500 lbs. The leader line 1½" size, stands a test of OVER 700 lbs.

Just compare the bulk of 50 feet of rubber lined with 50 feet of compact FLAX Fire Hose.

☞ **50 Ft. in the Roll He Holds**

YEAH! Save More Than $300 in Money on Every 500 Feet You Buy!

Never mind what we say about the marvelous value, the convenience, long life, the low price of FLAX hose. ☞ We are not salesmen. FLAX FIRE HOSE must sell itself! ☞ TRY IT OUT!

☞ Send a trial order and if it isn't all we say, fire it back and you will owe us nothing.

No. D461. FLAX Fire Dept. Hose, 1½" regulation size, in 50-foot lengths, per foot, only..... **30c**

No. D460. FLAX Fire Dept. Hose, 2½" regulation size, in 50-foot lengths, per foot, only..... **40c**

☞ Be sure to send thread specifications or an old sample of your couplings.

Any kind of couplings attached at our regular low prices.

A Friendly Firm—In Business Since 1908

W. S. DARLEY & CO.

FOR THE BEST IN FIRE DEPARTMENT EQUIPMENT

2810 Washington Blvd. Chicago, U. S. A.

The "Special" Line of

UNIFORMS & FIRE CLOTHES

For Winter and Summer Wear

UNIFORMS - BOOTS - JACKETS
UNIFORM OVERCOATS - SHOES - SHIRTS
HOUSE PANTS, BUNKER COATS and PANTS
(with or without detachable lining)

All Uniforms and House Pants Are Made to Measure and UNION MADE

We are patentees of the detachable feature of firemen's coat which provides a heavy blanket plaid lining (70% wool) which is removable in warm weather. The most satisfactory garment for winter and summer wear. Waterproof bunker pants with detachable lining in same materials. The outer waterproofed fabric will not absorb water, and ice will not cling to it. Very tough and durable, will turn 10-penny nail. Our garments are the result of years of study and experimentation. Bunking outfits and coats without detachable lining if preferred. We have them all—a complete line for firemen. Write, or wire if you are in the market for immediate delivery, or send for catalog showing our complete line. We solicit opportunity of bidding on city orders.

SPECIAL CLOTHING CO., Inc., 4543 RAVENSWOOD AVE. CHICAGO, ILL.

WARD LA FRANCE

HIGHEST QUALITY

MOTOR FIRE APPARATUS

Send in your Specifications for Prices

•

WARD LA FRANCE TRUCK CORP.
ELMIRA, N. Y.

BRUNSSEN CAPS

First Choice in Many Fire Departments

There seems to be a trend toward the 8 point cap for fire departments. It is one of the wide variety of caps by Brunssen. CATALOG AND PRICES ON REQUEST.

GEORGE BRUNSSEN CO., Inc.
92-96 Bleecker Street New York City

COVER'S NOD and SHAKE GAS MASK

Carry It in Pocket. Slip on in a Jiffy. Positive Protection to Eyes Against Smoke.

Price $48 per Dozen

Upon receipt of $4.00 one will be forwarded as a sample, postpaid.

H. S. COVER
Station A
SOUTH BEND, IND.

PERFECT is about the only word that adequately describes our double jacket hose. Uniformly woven jackets of long fibre cotton, with a perfect rubber lining made as only a 50 year old rubber firm knows how. *Write for prices.*

QUAKER CITY RUBBER COMPANY

MUNICIPAL FIRE HOSE SALES OFFICE:
Fox Bldg., 16th and Market Sts., PHILADELPHIA
FACTORY: WISSINOMING, PHILADELPHIA, PA.

HEWITT-GUTTA PERCHA

FIRE HOSE

A complete line, including
Wax Treated - Solid Multiple Woven
AND
Single and Double Jacket Hose
Manufactured by
HEWITT RUBBER CORPORATION
BUFFALO, N. Y.
"Territories Available"

Bi-Lateral Fire Hose

The one hose that does not require frequent replacements. Always reliable for fire service no matter how old, if the jackets are intact.
Lined with three rubber tubes.

BI-LATERAL FIRE HOSE CO.

15 Park Row, New York, N. Y.
20 N. Wacker Drive, Chicago, Ill.

EDDY

Fire Hydrants

Are given preference by so many fire protection and water works men because they know that more than half a century of experience go into their manufacture and they embody valuable and exclusive features.

Write for the Facts

EDDY VALVE CO.
Waterford, N. Y.
James B. Clow & Sons, Chicago Agents

NORTHERN PUMP COMPANY
ESTABLISHED 1907
MINNEAPOLIS, MINN.

JOHN H. CLAY, INC.
1320 Ridge Ave., Philadelphia, Pa.
Established 1864

Clay Automatic Door Opening Devices for Fire Station Doors Opening either In or Out. Save valuable minutes in getting to fires. Send for Bulletin.

WATEROUS FIRE PUMPS

WATEROUS COMPANY
SAINT PAUL, MINNESOTA

Our Advertisers

have data and information which can help you greatly. Get in touch with them.

FREE INFORMATION

JUST run down the list of equipment and jot down on the coupon below the numbers that indicate the equipment in which you are interested. Then fill out rest of the coupon and mail it to us.

We will then request the leading manufacturers of such equipment to send you descriptive literature and prices direct without any cost to you or obligation whatever.

The manufacturers we notify will gladly do this because they are advertisers and good friends of this publication and want to cooperate with our readers in every way possible in the improvement of their departments. So help yourself!

1 Acid Siphons
2 Adaptors for Changing Hydrant Threads
3 Acid Jars and Rings
4 Aerial Ladders, Detachable
5 Aerial Trucks
6 Alarms, Sirens, Electric
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29 Combination Chemical and Hose Cars
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34 Electric Light Plants
35 Extinguishers, Calcium Chloride
36 Extinguishers, Carbon Dioxide
37 Extinguishers, Soda-Acid
38 Extinguishers, Carbon Tetrachloride
39 Extinguishers, Foam
40 Extinguishers, Powder
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44 Fire Alarm Posts
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46 Fire Escapes, Rigid
47 First Aid Equipment
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49 Flashlights, Hand
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55 Gas and Smoke Generators
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86 Reviving Apparatus, Oxygen
87 Rubber Clothing
88 Salvage Covers
89 Searchlights
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91 Shirts, Firemen's Special
92 Sirens, Apparatus and Chiefs' Cars
93 Sliding Poles
94 Soda and Acid Chemicals
95 Spark Plugs, Fire Apparatus and Motorcycles
96 Squad and other Auxiliary Cars
97 Sprinkler Head Shut-Offs
98 Sprinkler Supervisory Service
99 Sprinkler Systems, Automatic, Foam
100 Sprinkler Systems, Automatic, Water
101 Steam Fire Engines
102 Syphons, Water
103 Tarpaulins and Fire Blankets
104 Tetrachloride Chemicals
105 Thawing Equipment, Hydrant
106 Tires, Fire Apparatus, Pneumatic, Solid, Cushion and Non-Skid
107 Tractors
108 Traffic Clearing Systems
109 Triple Combination Pumping Cars
110 Uniforms
111 Water Towers
112 Wheels, Cushion
113 Whistles, Fire Alarm, Compressed Air
114 Whistles, Fire Alarm, Steam
115 Whistles, Fire Apparatus
116 Wrecking Trucks

FILL IN THE COUPON NOW

FIRE ENGINEERING
24 West 40th Street, New York City

As a Fire Protection official I should like to have descriptive literature and complete information mailed to me, without cost or obligation, on the equipment indicated by the following numbers:

Date.....

Name..... Nos.....
Position..... Nos.....
Street..... Nos.....
City and State..... Nos.....

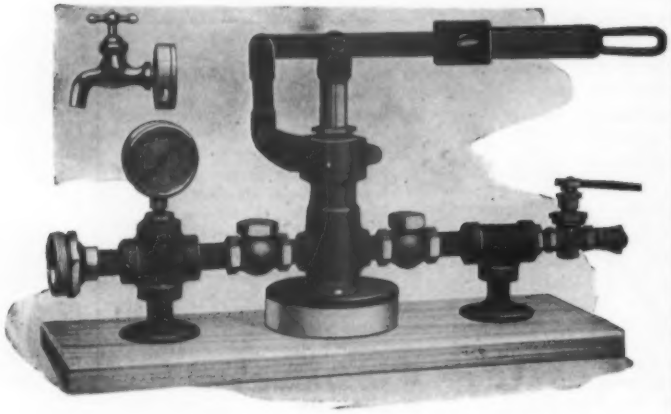
6-35

Take No Chances!

TEST YOUR HOSE

with the

ELKHART



FIRE HOSE TEST PUMP

IF you believe, as most fire chiefs do, in testing old hose regularly —and new hose upon acceptance from the manufacturer—The Elkhart Fire Hose Test Pump provides your simplest, most economical and practical way of doing it.

With this pump, hose can be tested up to 500 pounds pressure, more than enough for every reasonable requirement. The outfit, which weighs less than 100 pounds, is unusually easy to handle; just couple hose to one end, cup it and connect other end to faucet. Price of complete outfit ready to use, $85. Connections for any size hose may be had—*thread sample should be sent with order.*

For further details write

ELKHART BRASS MFG. CO.

ELKHART, INDIANA

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